

Exhibit 17

**600 YEARS OF HISTORICAL DEVELOPMENT OF
FIREARM TECHNOLOGIES GENERALLY
ASSOCIATED WITH ASSAULT WEAPONS BANS
AND MAGAZINE LIMITATIONS**

Expert Report

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This report was prepared at the request of the law firm, Hartman & Winnicki, P.C. at the rate of \$450/hour. It provides historical background on firearms and their features as they relate to technologies under New Jersey law that fall under the legal definition of "assault firearm" and "large capacity ammunition magazine."

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SECTION 1: INTRODUCTION

S1.1: BACKGROUND AND QUALIFICATIONS

I am a firearms historian, museum professional, and public educator, specializing in material culture studies, as well as a firearms and ammunition-related museum consultant, expert witness, freelance writer, and guest lecturer. Previously, I served as the Robert W. Woodruff Curator-in-Charge of the Cody Firearms Museum (henceforth to be known as the CFM), where I curated and managed a collection of around 7,000 firearms from the 1200s through modern day, with over 20,000 related artifacts, including ammunition, edged weapons, and accoutrements. I also served as the Project Director on the museum's full-scale multimillion dollar renovation, responsible for every aspect including but not limited to research, content, exhibition, and installation, which reopened in 2019. In Summer 2022, I co-founded the University of Wyoming College of Law's Firearms Research Center.

I have spent the last fifteen years immersed in the study of firearms history, technology, and culture. I earned both bachelor's and master's degrees in American History from the University of Delaware, during which I studied firearms history and culture and instructed undergraduate students about military weaponry until World War I. Much of my work since then focuses heavily on material culture surrounding the macro-history of firearms and how their developments have affected industry, culture, and society for centuries. I have been fortunate to work in some of the largest collections in the United States, beginning my career as a researcher and fellow in the Smithsonian Institution's National Firearms Collection housed in the National Museum of American History.

Additionally, I spent a decade working with and running an American Alliance of Museum's accredited museum, the CFM, a part of the Buffalo Bill Center of the West, which receives approximately 200,000 visitors annually. Of the 200,000 people, it is estimated, based on survey data, that only 50% of those people admit to having a background or specified interest in firearms. During my tenure, I also served as Project Director of the museum's renovation. With the aid of my team, I was responsible for all facets of the renovation including but not limited to concept, content, fundraising, and collections management. Final content for the museum was peer reviewed internally and

by an external panel of experts, including academic historians, museum professionals, teachers, public educators, gun collectors, and people unfamiliar with firearms, as well as people with a range of different political views on guns. The resulting museum, which reopened July 2019, provides a more interpretive space to facilitate productive dialogue on firearms and their roles in history. Throughout the CFM, terminology and definitions play a significant role in educating both visitors not familiar with firearms and those who consider themselves aficionados. Because roughly half of the museum's audience is not familiar with firearms, we dedicated an entire gallery at the front of the museum to understanding the basics of firearms past and present, their features, ammunition, and safety. Since its opening, the museum has received favorable reviews from the Wall Street Journal and National Public Radio for its accessibility to diverse audiences and thoughtful handling of what can be a sensitive topic. It has also been praised for its efforts to educate on and impact firearms safety.¹

During my time at the CFM and through my consulting, I have become nationally known for and sought after to provide a material culture perspective on firearms history that is often lacking in many modern, academic, and legislative discussions on firearms. I guide museums as well as other non- and for-profit organizations and government entities on the interpretation and understanding of that history. I have previously prepared reports and/or given testimony regarding the history of magazines, repeaters, and/or "assault weapons" (roughly equivalent to the New Jersey legislative term "assault firearm") for *Miller v Becerra (Bonta)*, *Ocean State Tactical et al v Rhode Island*, *Virginia Duncan v Bonta*, *State of Washington v. Federal Way Discount Guns et al.*, *Oregon Firearms Federation et al. v Oregon*, *Rupp v. Bonta*, *Barnett v. Raoul*, and *Guardian Arms v Inslee*. In May 2021, I testified in front of the Senate Judiciary Subcommittee on the Constitution's Hearing regarding "Ghost Guns," for which I researched and discussed the long history of privately made firearms and evolution of arms technology from the colonies through the 1960s. Because I have worked in several national collections that have upwards of 10,000

¹ Rothstein, Edward. "Handled With Care" *The Wall Street Journal*. September 27, 2019, <<https://www.wsj.com/articles/handled-with-care-11569601047>> Accessed June 15, 2023. Kudelska, Kamila. "Firearms Museum Focuses on Gun Safety, History and Culture." *NPR*. August 25, 2019, <<https://www.npr.org/2019/08/25/753448348/firearms-museum-focuses-on-gun-safety-history-and-culture>> Accessed June 15, 2023.

firearms each – collections that range from the earliest through most recent technology – I have developed a broad understanding of how firearms have evolved.

Working in large collections not only provided me an opportunity to gain knowledge of the entirety of firearms history, but also afforded me the opportunity to handle, assemble and disassemble, and shoot historic replica firearms. At the Smithsonian Institution's National Firearms Collection, I regularly handled firearms within the collection, with a specific emphasis on the U.S. Patent Office collection as well as the Edwin Bitter Martial Pistol collection. Over a decade at the CFM, I handled a large majority of the collection, not only in routine daily work, but also, when we were responsible for the deinstallation of over 4,000 firearms from the galleries into temporary storage during the renovation and the reinstallation of over 5,000 firearms. We routinely hosted visiting researchers and conducted our own research, so we would provide access to the artifacts in the collection. Sometimes we would allow for the disassembly of firearms for researchers to provide a more technical understanding of the internal mechanics of guns. We also disassembled firearms for photos as well as the examination of the artifacts for preventative maintenance. Running an internationally recognized and respected museum has also allowed me to spend time in other museums and private collections around the world, including the Institute of Military Technology (Titusville, FL), the Royal Armouries (Leeds, UK), and the Dutch Nationaal Militair Museum (Soest, Netherlands). Professionally, I am a member of several collector organizations, such as the preeminent American Society of Arms Collectors, which boasts the highest quality of collectors and museum curators. Because of this exclusive access, many have allowed me to shoot either reproduction or original – if stable enough – firearms to get a deeper understanding of the operation of the firearm from a user's perspective. Because firearms are so technically complicated, it is valuable to not only have researched them but also to have practical experience with them. I have shot representative examples in the evolution of firearms technology, from the earliest gun, the hand cannon to modern machine guns. Additionally, I have a firsthand understanding of the process required to make early arms, as I co-hosted a weapon making show on Discovery channel, entitled *Master of Arms*. I have also served as a writer and producer for several firearm history shows on History and Outdoor Channels.

In addition to my historical scholarship, I also have played a role in the public education around firearms. I have been responsible for the education of tens of thousands of students from elementary through college levels, teaching not only firearms safety and basics, but the historical and technical evolution of the firearm. In 2017, I developed the first full-scale symposium in the United States dedicated to the study of firearms in museums as material culture, which reoccurs annually. These symposia were organized to bring together firearms scholars from around the world to discuss their collections and create metrics to analyze the quality of scholarship that already has been done in the field. To continue that mission, I sit on the Editorial Board for the recently revived, peer-reviewed arms journal, *Armax*, and I co-founded the University of Wyoming College of Law's Firearms Research Center in 2022. Despite its location in the College of Law, this new Center intends to encourage research of all types related to arms and ammunition.

Currently as a museum consultant, I am in the process of working on several museums with heavy emphasis on firearms collections. I also conduct workshops on firearms, survey collections, and curate exhibitions at institutions such as the Houston Museum of Natural Science, CM Russell Museum & Complex, and the Mob Museum. I have served as a scholar and a panelist for the National Park Service and the Organization of American Historians on a forthcoming Coltsville National Historic Site. A current copy of my Curriculum Vitae summarizing my education and experience is attached at the end of this document as **Exhibit A**.

S1.1A: PRIOR EXPERT WITNESS TESTIMONY

Guardian Arms LLC et al v Jay Inslee, May 2023

Federal Firearms Licensees of Illinois v Pritzker, March 2023 (Barnett v Raoul)

Rupp v. Bonta, February 2023

Oregon Firearms Federation et al v Oregon, December 2022

State of Washington v Federal Way Discount Guns et al, December 2022

Virginia Duncan et al v Bonta, November 2022

Ocean State Tactical et al v Rhode Island, October 2022

Senate Judiciary Subcommittee on the Constitution, Stop Gun Violence: Ghost Guns, May 2021

Franklin Armory et al v Rob Bonta, February 2021

FN Herstal v Sturm, Ruger & Co, January 2021

Sturm, Ruger & Co. v American Outdoor Brands Corp., October 2020

Guedes v BATFE, June 2019

Miller v Becerra (Bonta), November 2019

Regina (Nova Scotia) v Clayton, January 2019

Garrison v Sturm, Ruger & Company, Inc. 2018

S1.2: SCOPE OF WORK

This report has been prepared at the request of the law firm Hartman & Winnicki, P.C. It will establish an interconnectivity between military and civilian firearms. Dating to the earliest firearms ignition system in the early 1400s, firearms were used for both military and civilian purposes. Civilian purposes include target shooting, hunting, and defense. Due to financial restrictions as well as wartime tactics, superior technology was often the property of civilians rather than the military. Those private purchases could then be used for sport and/or defense. Soldiers would also independently acquire firearms that they could carry into battle to supplement their standard issue military arms. As manufacturing processes improved, it was also common for civilians to purchase surplus military firearms following a war for a much more inexpensive price – a trend which continues even today.

This report will also identify major developments in firearms and ammunition technology, with an emphasis on history until 1911. In six hundred years, firearms technology gradually transitioned via many incremental innovations from an ignition system that utilized a burning match to fire a gun to the use of gas operating systems. Additionally, ammunition transitioned from the use of a round musket ball that was typically loaded after a measured amount of gun powder down the end of the barrel to a self-contained cartridge loaded from the breech. It will also identify developments in firearms technology including rifling (1450), repeating firearms (1400s), revolving cylinders (1680s), magazines (1630s), and other features often associated with New Jersey statutes.

This information will inform the following conclusions: 1. Until recently, civilians often had superior firearms than the military. The 1986 Hughes Amendment, a civilian

machine gun ban, shifted that trend in the opposite direction. 2. Technologies often associated with modern day have roots back as far as the 1400s in some respects, and those modern-day firearms are the direct descendants of a centuries long trail of innovations that gradually and continually advanced firearms technology for the purpose of increasing efficiency and effectiveness. 3. It is likely that individuals during the Founding Era were aware (a) that these technologies existed before and at the time of the Founding Era and immediately thereafter and (b) that firearm technology previously underwent and would in the future undergo significant change and innovation.

S1.3: METHODOLOGY

In terms of methodology, I typically use a combination of peer-reviewed articles and books, as well as established works by firearms researchers and collectors, and surviving artifacts. The study of firearms often differs from other fields within academic history. By academic history, I am referring to standard practices within the American university system, most often by those with J.D.s or Ph.Ds. More commonly though, scholarship surrounding firearms has been done by collectors, curators, and non-traditional researchers. For example, in the past many firearms museums across the world have been curated by a collector for the collector and aficionado rather than someone with a degree in museum studies and history. Because of how technical firearms are, these works lend themselves to being studied alongside surviving examples as well as primary source material. Some of the best research in the twentieth and twenty-first centuries has been done by these individuals, resulting in many academic scholars citing those sources, despite not being traditionally peer reviewed or published in a university press. I do not automatically use academic scholarship because while some of the scholarship is informative and provides crucial context to larger narratives surrounding firearms, it also can be technically flawed. It is important to maintain an open mind and find a balance between these two seemingly divergent forms of scholarship when considering quality of content to inform modern day legislation.

S1.4: TERMINOLOGY

Throughout this report, I will define terms as they appear, however, there are overarching definitions I would like to address outright. Due to variances within state and federal laws of firearms and ammunition related terminology, I wanted to provide greater clarity on how I understand these terms as they do not always align with legal definitions. These definitions were originally created and/or vetted for use in the Cody Firearms Museum by a combination of internal staff and an external panel of authorities, including researchers, collectors, curators, public educators, and historians.²

Overarching Terms:

Arms: Short for armaments; blades, bows, firearms, etc.

Firearm: A portable gun

Gun: A device incorporating a tube from which bullets, shells, or other projectiles are propelled by explosive or expanding gases.

Weapon: An object used for threatening or inflicting bodily harm (whether for defensive or offensive purposes). The military refers to firearms as weapons.

Types of Firearms

Carbine: A shorter rifle, usually with a 20 inch or less barrel

Handgun: a short-barreled firearm meant to be fired with one hand. The term pistol is often used interchangeably.

Machine Gun: An automatic firearm either portable or mounted.

Musket: A military long gun, typically smoothbore, meant to be fired from the shoulder or off a rest.

Revolver: A type of handgun that has a revolving cylinder.

Rifle: A firearm with *rifling*, designed to be fired from the shoulder.

Shotgun: A smoothbore gun (*no rifling*) that fires shot (smaller pellets).

Submachine Gun: An automatic firearm that is portable and fires a pistol cartridge.

Parts of a Gun

Barrel: The component of a firearm through which projectiles travel.

Bore: The hollow portion inside a gun barrel.

Breech: The rear end of the barrel.

Chamber: The part of the barrel in which a cartridge is inserted before being fired.

Cylinder: The rotating portion of a revolver, consisting of multiple chambers.

Forearm: A wooden or synthetic stock, forward of the breech, where a shooter can rest their hand to support the firearm. The forearm is there to protect the shooter's hand from the heat of the barrel.

² For purposes of this report, some of the definitions have been modified slightly to align with New Jersey statutes.

Frame: Also known as the receiver; the part of the firearm that holds together barrel, hammer, and trigger.

Grips: The portion of the firearm the user holds. Grips come in many forms, including half or partial, pistol, and forward grips.

Hammer: The part of a firearm that swings to impart a blow to ignite the cartridge.

Magazine: A container, detachable or fixed, where ammunition is stored while feeding a repeating firearm. *Note: Not interchangeable with clip, a device to feed ammunition into a magazine.*

Muzzle: Open end of the barrel from which projectiles emerge when fired

Receiver: Also known as the frame; the part of the firearm that holds together barrel, hammer, and trigger.

Rifling: Spiral grooves inside a barrel used to spin a bullet, much like throwing a football.

Safety: A mechanism designed to prevent accidental discharge.

Sight: Instruments to align a gun to fire accurately.

Smoothbore: An unrifled barrel.

Stock: The wood or synthetic part of the gun that a user holds.

Trigger: A mechanism that activates the firing sequence.

Striker: Also known as a linear hammer, the part of the firearm where a spring-loaded rod is used to strike the primer of a cartridge.

Types of Modern Actions

Action: The way a gun operates.

Automatic: A firearm that fires continuously when a trigger is pressed and stops either when the trigger is released, the firearm is out of ammunition, or it malfunctions.

Note: You may see the term “Automatic Handgun.” This is a colloquial term used for early semi-automatic handguns. They are not machine guns.

Bolt Action: A firearm with a breech that is opened by turning and sliding a bolt.

Break Action: A type of firearm in which the action opens at the breech to load ammunition into the chamber.

Double Action: A type of firearm in which the trigger does two actions, both cocking and firing the gun.

Lever Action: A firearm that uses a lever by the trigger guard to chamber a cartridge and typically, eject a spent case.

Over/Under: A type of firearm where two barrels sit one on top of the other and are loaded at the breech. Another similar style is a Side-By-Side.

Semi-Automatic: (*self-loading*) A firearm in which one round is fired each time the trigger is pressed. The firearm fires one round and chambers another to be ready when the user presses the trigger again.

Single Action: A type of firearm in which the trigger essentially does one action. A person must cock a hammer before pressing the trigger to fire the gun.

Slide Action: (*pump action*) A firearm that has a moveable forearm to chamber a round to be ready to fire and eject a spent case after a round is fired.

Ammunition:

Caliber: The internal diameter or bore of a gun barrel.

Cartridge: A type of ammunition that contains a bullet or shot, propellant, and a primer within a case.

Bullet: Projectile.

Shot: Collective term for a group of bullets or pellets.

Propellant: Usually gun powder or smokeless powder. After ignition, the propellant forces the bullet out of the gun.

Primer: A catalyst to ignite propellant.

Case: The housing of cartridge components (metallic, paper, plastic).

Gauge: A term of measurement to describe the internal diameter of a shotgun barrel. It is determined by how many lead balls of that diameter makes one pound; the smaller the bore (caliber), the higher the gauge number because smaller bores take more round balls to make up a pound.

Exception to the Rule: The .410 bore is also a shotgun caliber that does not follow the standard gauge designation and definition.

Shotgun Shell: A form of ammunition loaded with shot or slugs, designed to be fired from a shotgun.

Centerfire: A type of cartridge that fires by a firing pin striking a separate primer in the center of a cartridge case.

Rimfire: A type of cartridge that fires by a firing pin striking a priming compound in the rim of the cartridge case.

Paper Cartridge: A cartridge composed of a powder charge and projectile wrapped in combustible paper that serves as wadding to ensure the projectile is tightly held in the barrel.

Please note, I avoid using colloquial terminology, such as “weapons of war” and “ghost guns” because they are often imprecise and can be used to infer an opinion on the technology itself rather than define something historically and/or legally. However, for this report, I will be using the term assault weapon (or the equivalent New Jersey legislative term “assault firearm”) based on an overarching theme among various federal and state laws as a legislative catch-all term that has differing definitions dependent of proposed legislation that typically center around features of certain semi-automatic firearms. Note, this is not to be confused with the term Assault Rifle, which is defined by the Defense Intelligence Agency (1970) to mean a machine gun that is single person portable, selective fire (meaning it has both automatic and semi-automatic functions) and chambers an intermediate cartridge from a detachable magazine. The terms assault weapon (or firearm) and assault rifle are constantly confused with one another despite being extremely different technologies. Additionally, due to the Hughes Amendment, a part of the Firearms Owners

Protection Act (1986), which is a civilian machine gun ban, assault rifles made after 1986 are not permitted for private purchase, and therefore, not a concern for this case.

I will frequently use the term repeater or repeating firearm. I define this as a firearm, of all types, that can fire more than one round before needing to be manually reloaded. I will also make distinctions between the types of repeaters, with a particular emphasis on those that are magazine-fed. A magazine is a vital part of the firearm; it is a container, detachable or fixed, that holds and feeds ammunition into a repeating firearm. In the periods being discussed, there are repeating firearms that do not use magazines, such as revolvers, which use a rotating cylinder that is as important and integral as a magazine is to fire a gun. When I am discussing a repeater that has a magazine, I will qualify it as such. Additionally, I will use capacity to refer specifically to the number of rounds of ammunition that can be held within a firearm. Please see **Exhibit B** for more definitions.

SECTION 2: GENERAL FIREARMS HISTORY

S2.1: HISTORY OF SPORT AND WAR

The expression “weapon of war” is used a lot in modern and historical discussions surrounding firearms. Today, it is used as an umbrella term to describe a range of different firearms that people perceive as being useful to warfare, regardless of whether they were actually used on or designed for the battlefield. How the expression is used today implies a distinct line between firearms made for the military and firearms made for the civilian market. However, that line for centuries has always been blurred.

Once firearms were developed, technology often advanced too quickly for common battlefield use, finding popularity in the civilian market. Military firearms in a general sense were limited by tactics, government bureaucracy, and expense, while civilian arms, until recently, were predominantly limited by individual budget. Additionally, civilian arms could be employed for far greater number of uses, including hunting, self-defense, and target shooting. The earliest firearms technology appeared on the battlefield by the thirteenth century. The hand cannon, or handgonne, was little more than the name suggests, a cannon for your hands. The user utilized a touchhole and external fire source to ignite powder and fire the gun (**Exhibit C**). This primitive technology may not have been designed for a sporting purpose, but once it was designed, inventors pushed the boundaries, capabilities, and usages of firearms into the future. And while the hand cannon specifically may not have been used for sport, other military weapons of the time such as longbows and crossbows were popularly used for target shooting competitions in fairs during the Middle Ages.

The first true ignition system, the matchlock, was developed around 1400. This firearm, which utilized a burning match cord, was a popular military arm used for centuries around the world (**Exhibit D**). By the end of the 1400s, however, matchlocks and subsequent ignition systems also began appearing in early target shooting competitions (**Exhibit E**). Another example of a firearm being adopted for civilian use dates a century after the matchlock. In the first decade of the 1500s, a highly advanced handgun was developed, the wheellock. This gun, developed for use on horseback, was operated by the turning of a spring-loaded wheel (**Exhibit F**). While it saw some battlefield use, it was

expensive and difficult to repair. As a result, it was used for specialized purposes on the battlefield in Europe, but not as much in the colonies. However, the technology was considered so advanced, some European countries made and used wheellocks for sport in the 1800s. Another example of superior technology being used by civilians rather than military is rifling. Rifling, the boring out of the inside of a barrel with spiral lands and grooves to spin a projectile, thus making it more accurate, was developed in the mid-1400s and appeared predominantly in civilian arms, with a few military exceptions in the American Revolution, until improved developments in ammunition technology allowed it to be more commonly adopted on the battlefield by the mid-1800s (**Exhibit G**). Although in many instances, such as with the infantry, it was not until later in the nineteenth century that tactics caught up enough for rifling to be fully utilized.³

Before the ability to mass manufacture firearms, guns often were privately made by gunsmiths. Although armories existed in some form for centuries, there was significant cross pollination among gunsmiths, who did not work autonomously from one another. Rather, between the sixteenth through eighteenth centuries in Europe, the process of becoming a gunmaker was governed by guilds. These associations set rules about how to identify prospective students as well as create a standard for what they would be taught. As a result, ideas concerning the construction and decoration of firearms flowed freely throughout continental Europe. Another factor that allowed makers to emulate work was the widespread distribution of pattern books illustrating the latest fashions in arms in the years following 1640. Primarily produced in Paris, these books were eagerly sought after by makers throughout Europe and in the eighteenth century even made their way to the American colonies.⁴

Although two armories did exist in the United States around the time of the Founding Era, many guns for the battlefield were made or assembled by individuals or received via foreign aid. It is estimated that 2,500-3,000 gunsmiths worked in the colonies

³ Examples of rifled matchlocks do exist. Rifled wheellocks are far more common as they were so often used for hunting. Halbrook, Stephen. *America's Rifle: The Case for the AR-15*, pg. 101: "Around 1450, a German gunsmith cut spiral lands and grooves inside a gun barrel...such guns were called riffeln"

⁴ Information from the exhibition narrative. Houze, Herbert G. Co-Curator. "Art of the Hunt: Decorated European Sporting Arms from 1500-1800." Exhibition. Houston Museum of Natural Science, 2019.

alone.⁵ They, as private citizens, were responsible for making guns for both the military and civilians. While the standard infantry arm during the American Revolution was a smoothbore (no rifling) musket, there were some regiments during the War that used a common civilian firearm at the time, the American long rifle (**Exhibit H**). The long rifle was a modified design from the German jaeger (hunting) rifle that tended to have a longer barrel and a smaller caliber than its German counterpart. This civilian rifle was the far superior firearm in terms of accuracy compared to the inaccurate military smoothbore musket. However, because of the type of projectile employed at the time – a round musket ball – the process to load was slower for rifles because the ball had to fit snugly within the lands and grooves of the rifling, therefore it was not feasible for expansive military adoption.⁶ Examples of long rifles, however, were made with two barrels that would swivel to compensate for that limitation (**Exhibit I**).⁷ The long rifle in the colonies served as a multi-purpose tool. It was capable of being used for hunting, self-defense, and target shooting. Important to note though that unless being made for large-scale military adoption, such as the smoothbore musket, and/or produced with the use of parts kits ordered from overseas, civilian arms could be made at the request of individuals or in small runs.

Target shooting was a part of American culture before the formation of the United States with colonists taking part in competitions known as “Rifle Frolics.” In fact, David Ramsay in his “History of the American Revolution” (1789) spoke about the Battle of Bunker Hill (1775). He wrote, “None of the provincials in this engagement were riflemen, but they were all good marksmen. The whole of their previous military knowledge had been derived from hunting, and the ordinary amusements of sportsmen. The dexterity which by the long habit they had acquired in hitting beasts, birds, and marks, was fatally applied to the destruction of the British officers.”⁸ This tradition has continued throughout

⁵ Moller, George D. *American Military Shoulder Arms: Volume I*. University of New Mexico Press, 2011. P.107

⁶ Until the development of a successful conically shaped bullet (rather than a round musket ball) by Claude Etienne Minie and modified by James Burton at Harpers Ferry, rifling was expensive and slow to load. For a round ball to effectively spin in rifling, it had to fit perfectly which slowed the loading process. However, it was perfect for target shooting as well as hunting and specialized military use. Since tactics by the military were still shoulder-to-shoulder fighting, accuracy was not of prime importance, so militaries used smoothbore (unrifled) barrels for their standard equipment.

⁷ Examples can be found in the Cody Firearms Museum.

⁸ Halbrook, Stephen. *The Founders of the Second Amendment: Origins of the Right to Bear Arms*. Pg. 96-97

American history, especially after the Civil War. For example, the National Rifle Association was founded by Union officers in 1871, and its core purpose was “to promote and encourage rifle shooting on a scientific basis.” What resulted was the proliferation of international shooting competitions.⁹ Another example is the Olympic sport of Biathlon, a sport which involves both skiing and target shooting, dating to 1767 in Europe. It was initially created for government use in places like Norway. That purpose persisted for centuries, even after becoming an international sport. In the 1930s, Finnish troops still used skis and rifles for patrol. Until recently, the firearms used in Biathlon and other disciplines of the shooting sports, often used modified versions of centerfire NATO cartridge firearms **(Exhibit J)**.¹⁰ By the nineteenth century, progress on manufacturing processes allowed more firearms of more varieties to be available to the U.S. government as well as civilians. Many repeaters of all sorts produced during this century came in specific models indicating sporting vs military variants.¹¹

The line between military and civilian arms was certainly blurred at the founding of the country. While the military, as previously referenced, sometimes utilized superior civilian arms, civilians could also possess guns that were traditionally associated with the military, such as cannons.¹² That blurred line also extended to the role of the civilian and soldier. In the colonies and in early America, certain citizens were required to serve in their militias with firearm and ammunition requirements and some soldiers carried their personal firearms into battle. By the American Civil War, it was not unheard of for soldiers to privately purchase firearms that the U.S. government had not adopted or did not issue to them for use in battle. After the war, even military issue weapons that were used in war were often sold on the civilian market. After the Civil War, soldiers could buy their firearms and many dealers and distributors sold the surplus in mass in their catalogs or at stores for even lower prices. According to Springfield Armory National Historic Site,

⁹ The National Rifle Association of America was founded after the National Rifle Association in the United Kingdom (1859). <<https://home.nra.org/about-the-nra/>> Accessed June 15, 2023

¹⁰ An example of a centerfire modified firearm can be found in the Cody Firearms Museum.

¹¹ Flayderman, Norm. *The Flayderman's Guide to Antique American Firearms...and their Values*. 9th Ed (2019). This book is considered the gold standard in the evaluation of antique American made firearms. It provides not only firearms organized by manufacturer but also by type, such as repeater, sporting, military etc. Here is just one example: pgs. 694-695

¹² Moller, George D. *American Military Shoulder Arms: Volume 1*. University of New Mexico Press, 2011. P.107

“many thousands [of] cheap surplus weapons were released into private hands through General Orders 101, providing rifles, pistols, carbines, and muskets that found their ways into the hands of Americans in the decades following the Civil War.”¹³ The tradition of selling military arms to civilians continues today with firearms such as the Springfield Model 1903 bolt action rifle and even with semi-automatics such as the M1 Garand rifle, the M1 carbine, and the Model 1911 pistol.¹⁴

To summarize, there has always been an ebb and flow of civilian and military firearms for centuries, some with clearer lines than others. It is unfair to suggest that historically a gun at the time of its use would have been completely understood as only for war or sport because there was such interchangeability.

S2.2: TIMELINE OF MAJOR INVENTIONS

This timeline is not comprehensive of every major incremental development in firearms and ammunition history; however, it highlights the evolution in technology relevant to this case. Importantly, many of the greatest technological leaps occurred in the first three hundred years of development, with the initial invention of many technologies that are still employed in modern firearms. Later innovations, even into the mid-twentieth century, have tended to be more gradual refinements.¹⁵ Terms in bold that are not defined in the terminology section can be found in **Exhibit B**.

- Ca 1000: Invention of the **Fire lance**.
- 1267: English academic, Roger Bacon records **gunpowder**. *Note: Gunpowder recipes and use predates this in China by centuries*
- Ca 1280s **Hand cannons** were in use in China (surviving example exists)
- 1300s: The earliest examples of **breechloaders** appear in large guns that are set up on a device to swivel.
- Ca 1400: The appearance of the first true ignition system, the **matchlock**
- 1450: **Rifling** is invented
- Ca 1500-1510: The **wheellock** is invented.

¹³ Springfield Armory details this information here <<https://www.nps.gov/spar/learn/historyculture/a-springfield-rifle-musket.htm>> Accessed June 15, 2023

¹⁴ Today, postwar weapon surplus guns including several semi-automatic firearms such as the M1 Garand are sold through the Civilian Marksmanship Unit <<https://thecmp.org/sales-and-service/1911-information/>> <<https://thecmp.org/sales-and-service/services-for-the-m1-garand/>> Accessed June 15, 2023

¹⁵ This timeline was drawn largely from the one organized, reviewed, and exhibited at the Cody Firearms Museum.

- 1620-1625: True **flintlock** is invented.
- Ca 1640: Bayonets are introduced.
- Ca 1680: The first known **revolver** is created, and the cylinder is self-rotating.
- 1714: English ordnance begins buying uniformed parts for muskets
- 1718: The Puckle gun is invented. It is a flintlock revolving cannon patented by British inventor, lawyer, and writer James Puckle
- 1730s: American **long rifles** were made by German immigrants.
- 1774: Patrick Ferguson invents a **breechloading** flintlock rifle
- 1791: Ratification of the Second Amendment
- 1800: Discovery of Fulminates by Edward Charles Howard that will be used in **percussion** ignition firearms.
- 1808: Early form of self-contained cartridge is invented by Jean Samuel Pauly
- 1811: John Hall patents a **breechloading** rifle – a key step in the evolution of interchangeable parts
- 1818: **Percussion cap** is invented; Wheeler and Collier flintlock **revolver** is ordered in bulk.
- 1825: **Percussion** ignition becomes more common; Johann von Dreyse experiments with his needle gun (an early **bolt action**)
- 1829: True **centerfire** is invented by Clement Pottet
- 1835: Colt's first **revolver** patent in England; 1st telescopic sight (Morgan James out of Utica, NY)
- 1846: Claude Etienne **Minie** develops successful conically shaped projectile
- 1847: Walter Hunt patents a tubular **magazine**
- 1854: Smith & Wesson patent the **lever action**
- 1855: Rollin White patents a box **magazine**
- 1857: **Rimfire metallic cartridges** are developed by Smith & Wesson
- 1860: Spencer repeating rifle and Henry **lever action** rifle is sold
- 1862: Gatling Gun is patented
- 1864: Robert Wilson patents a detachable **magazine**
- 1865: Springfield armory designer Erskine Allin converts rifled muskets to **breechloaders**; Winchester becomes its own company
- 1873: Colt introduces their Model 1873 **single action revolver**
- 1877: Colt introduces their **double action revolver**
- 1884: **Smokeless powder** invented; **slide action** is popularized
- 1885: Hiram Maxim develops a **machine gun**
- 1886: **Box magazine** on the Mannlicher **bolt action**
- 1893: **Semi-automatic** pistol with detachable **magazine** introduced by Hugo Borchardt
- 1895: Colt Browning **machine gun** invented
- 1898: Antique Firearms Cutoff date – firearms, other than machine guns made before 1898 are not federally firearms. This designation was established by the Gun Control Act of 1968
- 1899: Arthur Savage begins selling lever actions with rotary **magazines**
- 1902: Hiram Percy Maxim invents the **silencer**

- 1905: John Moses Browning's Model 1905 is important development in what becomes the Colt Model 1911, chambered in his designed caliber the .45 ACP
- 1918: Browning **Automatic** Rifle and Thompson **submachine gun** are developed
- 1934: The National Firearms Act
- 1936: Adoption of the M1 Garand **Semi-automatic** rifle
- 1942: M1 Carbine adopted with the .30 M1 carbine cartridge
- Ca 1944: The STG 44 becomes the 1st production **assault rifle**.
- 1951: AKM **assault rifle** enters service
- 1956: Eugene Stoner develops the AR-10, Jim Sullivan refines it to become the AR-15
- 1959: Armalite sells rights to Colt to produce AR-15
- 1964: M16 adopted by US Military; Colt delivers AR-15s to the commercial market
- 1968: Gun Control Act
- 1970: HK VP 70; 1st **semi-automatic** polymer pistol released
- 1986: Glock **semi-automatic** polymer pistol is sold in United States; Hughes Amendment

SECTION 3: 600 YEARS OF HISTORICAL DEVELOPMENT OF FIREARM TECHNOLOGIES GENERALLY ASSOCIATED WITH ASSAULT WEAPONS BANS AND MAGAZINE LIMITATIONS

There are many terms used to define rifles, pistols, and shotguns regulated in assault weapons (firearms) bans. Regardless, the technologies banned by the statutes represent incremental change in technological innovation over the past 600 years.

S3.1: GENERAL HISTORY OF REPEATERS

As will be seen below, New Jersey's legal limit of ten rounds in an ammunition magazine is historically arbitrary, particularly for the time frame being discussed.¹⁶ The capacity for repeaters and magazine-fed repeaters were not fixed to one number, rather the number was constantly changing depending on design. Even model variations, such as a Winchester Model 1866, feature a range of different capacities based on the size of the magazine, the barrel, the caliber etc. Therefore, a ten-round ammunition capacity is not notable historically. As previously mentioned, I define a repeater as a firearm of any type that can fire multiple rounds before having to manually reload.

The concept of a repeater dates to the earliest technology of firearms. Hand cannons even came in multi-barrel variations (**Exhibit K**). While some repeaters were employed on the battlefield, they would not be widely popular for use in war until the late nineteenth century. That did not mean, however, that innovation in repeating technology was stymied. In fact, it was quite the opposite. Without the confines of wartime tactics and budget, many repeating firearms were commissioned by civilians who utilized them. The simplest method of producing arms capable of firing more than one round without manually reloading initially was to fit a firearm with more than one barrel. However, due to weight limitations, gunmakers began experimenting with other means of producing repeating arms during the sixteenth century. One of the first methods attempted involved superimposed

¹⁶ The federal government itself did not make this distinction until the 1990s. This date is referencing the Public Safety and Recreational Firearms Use Protection Act (1994). Additionally, there are many resources that can showcase the number of repeaters available in this time frame in the United States, but the place that aggregates them the best is Flayderman, Norm. *The Flayderman's Guide to Antique American Firearms...and their Values*. 9th Ed.

loads, which were successive charges of powder and ball on top of each other that were separated by wadding or the projectile itself in one barrel. They were fitted with locks that either had multiple cocks and pans or a single lock that could slide upon a rail. One such example was a sixteen-shot firearm made in 1580 (**Exhibit L**).¹⁷

By the 1630s, a Dutch gun making family, Kalthoff (also spelled in some sources, Calthoff), began experimenting with a design that allowed up to fifteen shots to be fired in rapid succession. It utilized a tubular magazine located in a pistol or rifle stock to hold powder and balls (**Exhibit M**)¹⁸ This system was so innovative it was reproduced and modified for over 150 years. According to late historian Herbert G. Houze, “their longevity is perhaps best demonstrated by the fact that Admiral Horatio Nelson owned a repeating flintlock pistol of their basic design, as did President Thomas Jefferson.”¹⁹ Also, by the mid-seventeenth century in Italy, other magazine-fed repeaters were being developed. According to the Royal Armouries (Leeds), an early example can be found at the Musée de l'Armée which was made by Giacomo Berselli of Bologna in the late 1660s.²⁰ However, more well-known is the Lorenzoni of Florence. The firearm is a magazine-fed repeater that came in pistol and rifle form. This design was copied and modified by numerous designers after its invention with various configurations and magazine capacities (**Exhibit N**). In addition to magazines, revolving technology was also being developed during this time. The Dafte revolver, for example, had a “single fixed barrel mounted to a central arbor upon which a cylinder of chambers rotates.” (**Exhibit O**)²¹

In 1722, Boston designer John Pim demonstrated a firearm that was alleged to have been “loaded but once” and “discharged eleven times following with bullets, in the space

¹⁷ This firearm was on display at the National Firearms Museum’s location in Missouri. Winant, Lewis. “A 16-Shot Wheel Lock,” *America’s 1st Freedom* (2014).

¹⁸ Houze, Herbert G. Co-Curator. “Art of the Hunt: Decorated European Sporting Arms from 1500-1800.” Exhibition. Houston Museum of Natural Science, 2019.

¹⁹ Ibid

²⁰ For more information, visit: <https://royalarmouries.org/stories/our-collection/the-christmas-connection-to-captain-souths-lorenzoni-pistol-our-collection/> Accessed June 15, 2023

²¹ Ferguson, Jonathan. “An Important Early Self-Rotating Revolver c. 1680, possibly by John Dafte.” *The Antique Arms Fair at Olympia London*. Pg. 30

of two minutes.”²² Additionally, a Boston gunsmith named Samuel Miller advertised for a twenty-shot repeater.²³

In 1724, another designer Emmanuel Wetschgi of Augsburg advertised his flintlock magazine firearm in a handbill (**Exhibit P**). According to Houze:

“Not only did he describe his design’s advantages and the ease with which it could be used, he also included an engraving showing one of his pistols being fired. This image, which is believed to represent Christian III, Count Palatine of Zweibrucken with the inventor by his side holding a sporting gun built on the same system... More importantly, it also incorporates what may be the first true advertising slogan... ‘What other pistols can shoot multiple rounds on one loading as accurately, rapidly, and as far, as today’s Wetschgi?’”²⁴

Another example of the Lorenzoni style was a firearm designed by British gunsmith, John Cookson in the late seventeenth century (**Exhibit Q**). A gunmaker in Boston, also named John Cookson – it is not clear if this person was the same Cookson from England, a relative, or a coincidence – published an ad in the *Boston Gazette*, in 1756, advertising a nine-shot repeating firearm (**Exhibit R**). Around the same time a Cookson-type twelve-shot repeater was made by gunmaker John Shaw.²⁵ Another example from the 1750s in America is the Belton repeating fusil. This gun was invented by Joseph Belton around 1758 (**Exhibit S**). Not a magazine repeater like the Lorenzoni, the Belton utilized superimposed loads. Notably, he petitioned the Continental Congress during the American Revolution to adopt his firearm. In 1777, Belton showcased a musket that shot sixteen rounds at once in front of General Horatio Gates, Major General Benedict Arnold, and scientist David Rittenhouse. The observers wrote on July 10, 1777:

“Having Carefully examined M. Belton’s New Constructed Musket from which he discharged Sixteen Balls loaded at one time, we are fully of Opinion that Muskets

²² Kopel, David and Joseph Greenlee. “The History of Bans on Type of Arms before 1900.” *Journals of Legislation*, page 38.

²³ Ibid, 38

²⁴ Houze, Herbert G. Co-Curator. “Art of the Hunt: Decorated European Sporting Arms from 1500-1800.” Exhibition. Houston Museum of Natural Science, 2019.

²⁵ An example of this firearm can be found in the National Firearms Museum <<https://www.nramuseum.org/the-museum/the-galleries/the-road-to-american-liberty/case-22-the-paper-cartridge/cookson-volitional-repeating-flintlock.aspx>> It is also discussed here in this site linked directly from the Royal Armouries: <<http://firearmshistory.blogspot.com/2014/02/the-cookson-repeater.html>> Accessed June 15, 2023

of his Construction with some small alterations, or improvements might be Rendered, or great Service, in the Defense of lives, Redoubts, Ships & c. & even in the Field, and that for his ingenuity & improvement he is Intitled to a handsome reward from the Publick.”²⁶

Washington ordered one hundred Belton firearms for use in the Continental Army. However, this order was canceled. Surviving and modified examples of the Belton design were made by his partner in the 1780s, including artifacts at the Royal Armouries in Leeds, that include a detachable magazine variation. One also has a sliding spout meant for port fire – a slow-burning ignition system. When locked into place, the user would essentially ignore the main trigger, frizzen, and cock and just pull the lock backwards one stage at a time, making the firearm, while not strictly a semi-automatic, have a similar rate of fire to that of a double action.²⁷ Around 1779, the Girardoni (also spelled Girandoni) air rifle was developed. It was a repeating arm that could fire twenty-two rounds from a tubular magazine (**Exhibit T**).²⁸ The magazine itself was quick to reload with the help of speed loading tubes. Speed loading tubes or speed loaders are essentially a device through which you can load ammunition quickly into a magazine or a firearm. There are several ways this can be employed. Additionally, the Girardoni could fire forty rounds before needing air to be pumped again.²⁹ The Girardoni was used by Meriwether Lewis on the Lewis and Clark Expedition (1804-1806). Over 1,000 Girardonis were made for service with the Austrian

²⁶ Kopel, pg. 38

²⁷ The Royal Armouries has two of these detachable magazine Belton repeaters. It can be seen here: < <https://www.youtube.com/watch?v=-wOmUM40G2U>> Accessed June 15, 2023. The description of the operation of fire is from a conversation with Keeper of Arms, Jonathan Ferguson.

²⁸ Kopel, David. “The History of Firearms Magazines and Magazine Prohibitions.” Albany Law Review, Vol. 88, 2015, pg. 853

²⁹ Kopel, David & Joseph G.S. Greenlee. “The History of Bans on Types of Arms before 1900. Pg. 40.

military, but light weight examples were allegedly produced in sporting variations.³⁰ This design also was copied by gunmakers around the world.³¹

Around the ratification of the Second Amendment, other repeaters were being developed throughout the world, including multi-barrel firearms in which all barrels could fire at once, such as the Nock Volley gun and Duck's Foot pistol (**Exhibit U**).³² There is also a surviving example of a firearm commissioned by an individual around the end of the 1700s. It is a fourteen-barrel double Nock volley gun style rifle. Each set of seven barrels has its own lock plate and trigger. To better facilitate loading, the firearm came with a speed loader that allowed the user to pour the charge into a small device that the user could then pour down seven barrels simultaneously. This firearm was a sporting arm. To facilitate accuracy at such a large size, it has a hand rest forward of trigger, under the barrels. In the event the user only wanted to use one set of seven barrels, he had a replaceable stock made with one lock plate and trigger.³³ In America, Joseph Gaston Chambers devised a repeating musket that could fire, according to him, twenty rounds a minute (**Exhibit V**). He approached the U.S. War Department in 1792 with his invention. The Secretary of War, Henry Knox, was interested in finding a firearm that would supply more power and requested that one of Chambers' firearms be acquired for testing. A demonstration was set up at Alexander Hamilton's "Seat" on the Schuylkill.³⁴ Furthermore, Chambers petitioned

³⁰ For more information on Lewis and Clark and the Girardoni, the most comprehensive research on the Girardoni air rifle was done by scholar Michael Carrick. His research is footnoted in this summary article of the Lewis and Clark firearms that can be found here:

<http://www.westernexplorers.us/Firearms_of_Lewis_and_Clark.pdf> Accessed June 15, 2023, Additionally, Ian McCollum, one of the foremost authorities on firearms technology in the United States, has done several videos and articles about the firearm. This is one article he wrote <<https://www.forgottenweapons.com/rifles/girardoni-air-rifle/>> Accessed June 15, 2023. A surviving example of a Girardoni can be found: <<https://www.nramuseum.org/guns/the-galleries/a-prospering-new-republic-1780-to-1860/case-8-romance-of-the-long-rifle/girardoni-air-rifle-as-used-by-lewis-and-clark.aspx>> Accessed June 15, 2023, Rock Island sold a sporting variation in 2018: <<https://www.rockislandauction.com/detail/75/3293/girardoni-system-repeating-air-gun>> Accessed June 15, 2023

³¹ An example of a Russian copy of a Girardoni Rifle can be found in the Cody Firearms Museum

³² An example of the Duck's Foot Pistol can be found here: <<https://www.recoilweb.com/ducks-foot-pistol-old-school-172784.html>> Accessed January 31, 2023. An example of the Nock Volley Gun can be found here by British scholar Matthew Moss <https://armourersbench.com/2020/01/12/nock-volley-gun/> Accessed June 15, 2023

³³ McCollum, Ian. *Forgotten Weapons*: <<https://www.youtube.com/watch?v=ivdlcHUwaEw>> Accessed June 15, 2023

³⁴ Fagal, Andrew J.B. "The Promise of American Repeating Weapons, 1791-1821. *Age of Revolutions*. Fagal is the Associate Editor at Princeton University's Papers of Thomas Jefferson.

Thomas Jefferson for help spreading the word of his invention. To which Jefferson referred him to the U.S. Patent Office.³⁵ His invention was not adopted initially with concerns for structural stability, but his repeating muskets, pistols and seven-barreled swivel guns were adopted by the U.S. Navy and Pennsylvania for the War of 1812. Between September 1813 and September 1814, Philadelphia arms makers would produce at least fifty-three seven-barreled swivel guns that could fire two-hundred bullets a piece, two hundred repeating muskets, and one hundred repeating pistols. Outside of the United States, European countries were also interested in his inventions.³⁶ Another repeater designed in 1821 was known as the Jennings repeating flintlock. It was capable of firing twelve rounds before having to reload (**Exhibit W**).³⁷

The foregoing demonstrates that numerous types of repeating firearms existed leading up to, around, and directly after the time of the ratification of the Second Amendment, which in some cases, had direct ties to Founding Fathers. As was typical of the era, these were often made by private gunsmiths and sometimes individually commissioned. During the Founding Era and after, unless employed for military purposes with the need for quantity, firearms at large were not produced in volume as they would have been by the late nineteenth century after great shifts in the industrial era. We also know that Americans were likely aware of various European innovations, since surviving examples in America are sometimes modeled after those firearms, from the simple musket that supplied much of the US military during the American Revolution to repeaters such as the Cookson, following a Lorenzoni magazine style. Overseas travel and the exchange of information was also common. For example, as Minister of France, Thomas Jefferson traveled overseas in the 1780s, where he learned about the concept behind interchangeable parts. Notably, even to some of the less successful firearms designs with flaws, imperfections, and issues, it is interesting that while the Founding Fathers were aware of them, manufacturers could continue to produce those designs, to my knowledge, without regulations, unlike the fire safety laws that were enacted to regulate gunpowder.

<<https://ageofrevolutions.com/2016/10/20/the-promise-of-american-repeating-weapons-1791-1821/>> June 15, 2023

³⁵<<https://founders.archives.gov/?q=Joseph%20chambers%20bursteds&s=1111311111&sa=&r=1&sr=>> Accessed June 15, 2023

³⁶ Fagal

³⁷ Flayderman, Pg 683

It is also interesting to note that the reason we are aware of these firearms, in most cases, is that examples have survived thanks in large part to museums and private collectors. In fact, gun collecting dates to the 1600s. While the earliest firearms collector is credited to be King Louis XIII of France, firearms were not only owned by royalty or the aristocracy. For example, in 1666, according to Houze, it was recorded that the merchant, Alexandra Delamarre, had put together a collection numbering some thirty pieces. Gun collecting continued to grow ever more popular during the eighteenth century and some truly large collections were assembled. For example, one collector, Joseph von Dufresne of Munich, Germany, at the time of his death in 1768 possessed 277 pistols, 457 long arms, plus crossbows and other items.³⁸ Even in the colonies, estate sales featured repeating firearms, including an advertisement from South Carolina (1736) (**Exhibit X**).³⁹

Importantly, this meant that those of the Founding Era were aware of significant innovations in firearms technology over time and it's reasonable to expect that innovation to continue into the future – the most notable example being the major difference in technology between the military smoothbore muskets used by most soldiers during the American Revolution and the far more advanced American long rifles owned by the American colonist during that same time frame.

Prior to the American Civil War, there were many makers and manufacturers of repeating firearms, however, the tradition of individual gunmakers was still prominent. As manufacturing processes advanced, these concepts evolved into more standard repeaters produced in greater quantities. The transition of firearms being made by private gunmakers increasingly shifted to factories by the mid-nineteenth century. Inline manufacturing, interchangeable parts, and mass production impacted not only the types of firearms that were available, but also quantity and quality. While repeating firearms, magazine-fed or not, exceeded ten-rounds centuries prior, the number of distinct types of repeaters in general by the middle of the nineteenth century was staggering.

With these industrial changes, repeaters continued to evolve as they had for centuries. Around 1814, another step in revolving technology appeared with the Collier flintlock (later percussion) revolving rifles, pistols, and shotguns (**Exhibit Y**). Decades

³⁸ Houze, Herbert G. Co-Curator. "Art of the Hunt: Decorated European Sporting Arms from 1500-1800." Exhibition. Houston Museum of Natural Science, 2019

³⁹ The South Carolina Gazette. Number 125. June 19, 1736.

later, pepperbox pistols, a revolving pistol with multiple barrels that were manually rotated on a central axis, were popular in the United States by the 1830s, some were even taken out west with California gold miners (**Exhibit Z**). One maker of pepperboxes alone, Ethan Allen, between the 1840s and 1850s made over forty variations of this style of firearm.⁴⁰ While many pepperbox pistols typically fired four to six shots, some were capable of firing twelve, eighteen, or twenty-four rounds.⁴¹ It becomes difficult to quantify the number of repeaters on the market though because makers were so plentiful. In 1836, a year before Samuel Colt's first patent in England of his revolving mechanism, the patent process was standardized through the United States Patent Act. That year, Samuel Colt took out two patents for five or six-shot revolving rifles and pistols (**Exhibit AA**). As a result, he essentially owned the legal right to produce the revolver until the patent expired in the mid-1850s. This Act created a flurry of production, innovation, and design especially towards repeaters and magazines to varying degrees of success. The fact though that so many people were trying to design the next great repeater shows the desire to capitalize on this technology.⁴² It should be noted, however, that while 1836 was an important year, the recognition of the importance of patents to support technological innovation dates to the Constitution (See Article I; Section 8). As Secretary of State, Jefferson himself was involved in the earliest patent process. All this further demonstrates the expectation of the Founding generation that technological innovation was not only likely but to be encouraged.

Regardless of whether or not a design was successful that desire to innovate has always been present. One such attempt was in 1851, when Perry W. Porter developed a nine-shot repeating rifle and pistol that instead of a traditional cylinder as in Colt's design, the cylinder is seated in a way that the chambers point towards the shooter and anyone nearby (**Exhibit BB**).⁴³ Another attempted design, in which a proof of concept prototype survives, is the Lindner patent of 1856, which is a rifle with a six-round cylinder and nine-

⁴⁰ Flayderman, pg. 56-61

⁴¹ Kopel, pg. 854. Additionally, pinfire pistols and long guns can be found in museum collections with capacities greater than ten rounds.

⁴² Examples of these patented repeaters include Volcanic lever actions, the Jarre Harmonica pistol and rifle, Porter and Genhart turret rifles, Josselyn Chain Revolvers etc. More successfully were revolvers and repeaters by Smith & Wesson, Remington, Merwin & Hulbert, Henry, Winchester etc.

⁴³ The 1837 Cochran turret rifle operated off a similar construct with a horizontally seated cylinder.

round tubular magazine. The gun design could hold multiple magazines at a time that could extend the length of the barrel (**Exhibit CC**).

Successful innovations obviously did occur as well. Horace Smith & Daniel Wesson developed a self-contained metallic cartridge to pair with a revolver they designed and would sell when Colt's patent expired in the 1850s. The invention of their revolver coupled with a patent by designer Rollin White to have a bored through cylinder, allowing the revolver to be loaded from behind, greatly increased the speed of reloading the firearm (**Exhibit DD**). Additionally, in 1854, Smith and Wesson patented a lever action design called the Volcanic, which was based on a few earlier designs in the 1840s and would serve as the basis for the Winchester lever actions (**Exhibit EE**). This design would be modified by Benjamin Tyler Henry into the Henry Model 1860 lever action rifle (**Exhibit FF**). The next iteration of lever action was the Winchester Model 1866 (**Exhibit GG**). The main innovation with this gun was Nelson King's Patent in May 1865, that allowed the firearm to be loaded from the receiver, a faster and superior design to Henry in which the user had to essentially load the tubular magazine from the muzzle.

Winchester was not the only manufacturer of repeating firearms in the mid to late nineteenth century. Other companies were producing competitive repeaters, such as the Evans Repeating Rifle, which was made between 1873 and 1879. Approximately, 12,200 were made and they came in three variations, Sporting (approximately 4,350 made), Military (approximately 3,200), and Carbine (not specified as either sporting or military, approximately 4,700 made). The Evans held magazine capacities at twenty-eight, thirty-four, and thirty-eight rounds (**Exhibit HH**)⁴⁴ The Evans as well as other companies such as the Spencer Repeating Rifle, Fogerty Repeating Rifle, Adirondack Firearms, Bullard Repeating Arms, Burgess Gun, and the Whitney Arms Companies also were making repeaters. However, some names are lesser known, partially because Winchester realized the value in their designs and the threat of them as a competitor, so they acquired the companies.⁴⁵ Other major manufacturers, such as Marlin, quickly popped up as well by the 1890s as a direct competitor to the Winchester lever action as did Savage firearms, including the Model 1899, equipped with a rotary magazine (**Exhibit II**). In all, there were

⁴⁴ Flayderman, pg. 694-695

⁴⁵ An entire exhibit at the Cody Firearms Museum is dedicated to the many repeating arms companies that Winchester acquired. Examples are archived in the Winchester Arms Collection.

over one hundred manufacturers or makers in the United States alone producing some type of repeating firearm leading up to and decades after the Civil War.⁴⁶

The experimentations in design ultimately led to incremental improvements on repeating technology, culminating in the design of automatic and semi-automatic technology. Automatic technology operation involves pressing a trigger to fire continuously until the user releases the trigger, the firearm runs out of ammunition, or the firearm malfunctions. Semi-automatic operation involves pressing a trigger to fire one round, eject a spent case, and load another to be fired on the next trigger pull. Today, most firearms are semi-automatic rifles, pistols, or shotguns. Semi-automatic technology was developed in the 1880s around the same time as automatic technology. Mannlicher is generally attributed to creating the first semi-automatic rifle, although his initial design was far from successful; handguns followed shortly after. The first mass produced semi-automatic pistol was the Hugo Borchardt designed C-93 with detachable eight-round magazine (**Exhibit JJ**). The Mauser C-96 (**Exhibit KK**) followed, as did John Moses Browning's Model 1899/1900 pistol, which by 1905 would serve as the basis of the iconic Colt Model 1911 semi-automatic pistol (**Exhibit LL**).

S3.2: FEATURES

Assault firearm bans and magazine limitation statutes often concern themselves with firearm features, such as detachable magazines, various types of grips, barrel shrouds, and threaded barrels. These features themselves have their own long history as they have often served to mitigate side effects from shooting firearms, including aiding in stabilization and individualized fit, as well as flash and sound suppression, which historically have had purposes in both sport and defense.

S3.2A: DETACHABLE MAGAZINES

As this report has previously cited, magazines of many types existed as far back as the 1600s. They also come in many forms, such as tubular, box, rotary, etc. Within these subcategories, they can either be fixed or detachable. For example, more than half a century after Girardoni's tubular magazine, Walter Hunt received a patent for a fixed tubular

⁴⁶ Flayderman, Chapters V: A-F pages 50-299; Chapter VII: A, B, C Pages 351-387; Chapter VIII: A Pg458-524; Chapter XIII pages 691-697; Chapter XV: pages 709-733

magazine in the 1840s to pair with his invention, the Hunt Volitional rifle, which is the older direct ancestor to the Winchester lever action rifle (**Exhibit MM**).⁴⁷ On the other side, Christopher Spencer developed a tubular magazine in the butt stock that was detachable in 1860 (**Exhibit NN**). Beyond tubular magazines, there were other designs such as the Genhart turret rifle, from the 1850s, that had a detachable circular magazine with an externally visible shot/round counter and the Jarre Harmonica Pistol and Rifle with a detachable horizontally seated magazine that slides after each round is fired like a typewriter (**Exhibits OO & PP**)

In terms of box magazines specifically, Rollin White patented one in 1855 (**Exhibit QQ**).⁴⁸ A detachable version was patented in 1864 by Robert Wilson (**Exhibit RR**).⁴⁹ And a vertically stacked box magazine was patented by James Paris Lee in 1879 which was applied to several rifles including the Mannlicher Model 1886 bolt action rifle (**Exhibit SS**).⁵⁰ Even the earliest semi-automatic handguns utilized either fixed or detachable magazines. The Mauser C-96 had a fixed one, and the Borchardt C-93 detachable.⁵¹

S3.2B: GRIPS/BARREL SHROUD

The concept of a stabilizing entity to help not only simply hold the firearm but also do so with maneuverability and accuracy dates to the earliest arms and sporting guns. For example, early target shooting competitions relied on it. Schuetzen, a sport dating to the 1600s that continues today, incorporates elaborate molded cheek pieces and palm rests. German Frei pistol of the nineteenth and twentieth centuries, essentially do the same. While these customizations may not fit the typical definition of a pistol grip or thumbhole stock, the intent is similar (**Exhibit TT**)

The simplest form of a stabilizing device is the *barrel shroud*, which is essentially just a forearm. The purpose of a barrel shroud is to prevent “burning the bearer’s hand.” By that definition, any firearm with a full-length stock has a barrel shroud, such as an eighteenth-century Brown Bess or early single shot pistols.

⁴⁷ Hunt, Walter. US Patent 6663A (1849)

⁴⁸ White, Rollin. US Patent No 12648 (1855)

⁴⁹ Wilson, Robert. US Patent No 45105 (1864)

⁵⁰ Lee, James Paris US Patent No 221328 (1879)

⁵¹ Kopel, 857 referencing *Standard Catalog of Firearms*. (2014), Gun Digest Books, pg. 708-709

Stock design in and of itself necessitates a *pistol grip*. These grips date to the 1700s. When taken literally, single shot flintlock and later percussion pistols sometimes would have the option to attach a removeable stock. When assembled pistols become long guns and the grip from the pistol serves as the stabilizing device. This trend of detachable stocks continued with repeating arms, including several models of Colt revolvers, in the civilian and military market. Even semi-automatics such as the Borchardt C93 and Mauser C96 had detachable stock options. If a user did not have one of these models, universal holsters to convert a pistol to a rifle with a detachable stock existed (**Exhibit UU**). On firearms without detachable stocks, pistol grips appear on all variances of firearm actions. Standard rifles and shotguns would often have some sort of partial grip. Full pistol grips even made their way on machine guns by the end of the nineteenth century, including the Colt Model 1895, French Chauchat (1907) and several Maxim models. Submachine guns like the Thompson (1918) had them as well. Pistol Grips also appeared on other National Firearms Act firearms, outside of machine guns, such as Any Other Weapons, like the Ithaca Auto & Burglar (1922), the Harrington & Richardson Handy-Gun (1921), and the Marble Game Getter (1908). The design continues to be used far into the twentieth century, including other semi-automatic firearms such as the M1A1 Paratrooper Carbine designed with not only a pistol grip but also folding stock (**Exhibit VV**).

Forward grips, on which the user holds a grip forward of the breech, have also been around since the late eighteenth century. The previously referenced fourteen-barrel firearm (ca 1795) has a forward grip. Additionally, another example is the French Magot rifle from the 1880s. Possibly one of the only copies of this gun is in the Cody Firearms Museum (**Exhibit WW**).

While not technically a grip, *thumbhole stocks* serve a similar purpose. It is more difficult to historically trace, but their regulation has had a deep impact on sporting and Olympic firearms in the modern era. Certain Olympic rifles feature thumbhole stocks, including several models of Winchester, dating to the 1950s. This type of concept or technology is a very prominent shooting sports feature.

S3.2C: FOLDING/TELESCOPING STOCK

The Cody Firearms Museum has a folding stock snaphaunce blunderbuss that dates to between 1650-1700 (**Exhibit XX**) With early firearms, folding or adjustable stocks are

not necessarily common because pieces in the civilian world were made by artisans prior to mass production. However, the appearance of detachable stocks – converting a pistol to a rifle/carbine – appear in the 1700s on flintlocks and continue to be incorporated on percussion, revolver, and semi-automatic guns. As guns were mass produced in scale, various models were often made, such as a Junior or Ladies rifle, to provide a different size option for the size or ability of the sport shooter. The flexibility of stock size in a telescoping stock is very important in the civilian market where comfort and having firearms suited for the individual are preferable and feasible. In the early 1900s, and possibly earlier, consumers would be relegated to finding their correct stock size using Try Guns, which were carried by salesmen to allow the consumer to adjust the stock to fit them to see what size a given person needed. Two examples in the Cody Firearms Museum collection are the Winchester Model 12 and LC Smith Try Guns (**Exhibit YY**). Once an appropriate size was determined, the firearm would be made with a fixed stock. Folding stocks do make appearances in the military sphere with the M1A1 Paratrooper Carbine model as well as several submachine guns.

S3.2D: FLASH SUPPRESSOR/THREADED BARREL

While the above concerns itself more with the fit of a firearm and how to stabilize it, other features exist to mitigate the negative side effects of shooting firearms.

Flash suppressors at their core are meant to reduce muzzle flash. The issue of a flash either giving away one's positions or temporarily distorting the vision of the user, dates to the earliest technology of firearms. Firearms, until the development of percussion ignition in the early nineteenth century, made use of an exposed flame at the breech of the gun. Hand cannons and matchlocks used burning matches to ignite gun powder inside the barrel. Wheellocks and flintlocks used pyrite and flint to create a spark. These technologies created a lot of smoke and flash which was a detriment to the user.

The modern concept of a flash suppressor appears on machine guns from World War I, including the Chauchat. The traditional flash hider on military arms, not classified as a machine gun, was used during WWII on guns such as the Lee-Enfield “jungle carbine” and has appeared on AR platform firearms, originally invented in the 1950s (**Exhibit ZZ**). Even the invention of a sound suppressor, known legally as a silencer, by Hiram Percy

Maxim in 1902 suppressed flash. Silencers were heavily marketed to the civilian population as target accessories.

Another method to contribute to the ease of shooting is a threaded barrel for several purposes, including the use of a silencer, however, the concept dates back much further. An early idea of a quick attachment system in or on a barrel of a gun is the bayonet. Developed in the sixteenth century, the bayonet was commonly used for both military and civilian firearms. There have been a variety of muzzle devices that have been attached to a barrel (compensators, silencers, muzzle brakes, flash hiders etc.). While some early semi-automatic rifles, pistols, and shotguns had threaded barrels, the military did not always use threaded barrels for their suppressed firearms, nor did the civilian market. This is because Hiram Percy Maxim, the inventor of the Silencer, sold his silencer often with an adapter that allowed a silencer to be affixed without a threaded barrel, making the need for a threaded barrel or the thought that no threaded barrel would prevent the addition of a silencer moot.

SECTION 4: CONCLUSION

To summarize, this report has looked at the long history of firearms around the world. It has looked at technologies specifically relevant to this case with a lens for their technical functions and their varied uses. One of the core takeaways from this report is the context of the interconnectivity between military and civilian firearms since the development of the first ignition system and why civilians have often had superior firearms. It also identifies major developments in firearm technology and establishes that some of the most significant changes in design occurred in the first few centuries, laying the foundation for most if not all modern firearms technology. Ultimately, firearms innovation is a continuum of gradual advancements in technology. Over time, such incremental advancements have contributed to the increasing ability of individuals to operate their firearms effectively and safely.

Exhibit A: Ashley Hlebinsky Curriculum Vitae

Ashley Hlebinsky, President, The Gun Code, LLC
2124 E Kerry Lane, Phoenix, AZ 85024
Email: theguncode@gmail.com
Phone: 412-491-2493

Education:

Master of Arts, American History, University of Delaware, 2013

Bachelor of Arts, American History, University of Delaware, 2011

Recent Honors/Awards:

Second Amendment Foundation's Defender of the Constitution, 2022

National Shooting Sports Foundation and Women's Outdoor Media Association's
Top Five Finalist, Top Woman of the Gun Industry, 2022

National Shooting Sports Foundation's SHOT Business's Top 40 under 40, 2020

Wyoming Business Report's Top 40 Under 40, 2017

National Shooting Sports Foundation & Professional Outdoor Media Association's
Shooting Sports Communicator of the Year Award, 2017

Wyoming's Non-Profit Woman of the Year Nominee, 2017

Selected Professional Experience:

Co-Founder and Senior Fellow, University of Wyoming College of Law's Firearms
Research Center, Laramie, WY, 2020 (Current)

Consulting Director, Craig Boddington Wildlife and Firearms Museum, Independence,
KS, 2022 (Current)

Consulting Curator, LA Police Museum, Pasadena, 2021 (Current)

Senior Consulting Specialist. Cowan's Auctions, Cincinnati, OH, 2020 -2022

Consultant, National Museum of Law Enforcement and Organized Crime (Mob
Museum), Las Vegas, NV, 2016 (Current)

Guest Curator, C.M. Russell Museums and Complex, Great Falls, MT 2021 (Current)

Adjunct Scholar of Firearms History, Technology & Culture, Firearms Policy Coalition, 2020-2021

Curator Emerita & Senior Firearms Scholar, Cody Firearms Museum, Buffalo Bill Center of the West, 2020 – 2021.

Robert W. Woodruff Curator, Cody Firearms Museum, Buffalo Bill Center of the West, Cody, WY, 2015-2020

Project Director, Cody Firearms Museum Renovation, Buffalo Bill Center of the West, Cody, WY, 2015-2019

Consulting Curator, Houston Museum of Natural Sciences, 2018

Consultant. Adirondack Experience. November 2019

Consultant. Winchester Mystery House, August 2019.

Consulting Scholar. National Park Service & Organization of American Historians, March 2019.

Consultant/Curator. Daniel Defense, Black Creek, Georgia. 2017

Associate & Acting Curator, Cody Firearms Museum, Buffalo Bill Center of the West, Cody, WY, 2015

Guest Curator. C.M. Russell Museums and Complex, 2015-2016

Guest Curator. Cody Firearms Experience, 2015

Assistant Curator, Cody Firearms Museum, Buffalo Bill Center of the West, Cody, WY, 2013-2014

Teaching Assistant, The Jewish Holocaust: 1933-1945, University of Delaware, 2013

Teaching Assistant, Introduction to Military History, University of Delaware, 2012

Teaching Assistant, History Education, University of Delaware, 2011

Researcher/Fellow, National Museum of American History, Smithsonian Institution, 2010-2013

Archival Assistant, University of Delaware Special Collection, 2010-2011

Firearm Intern, Soldiers and Sailors National Memorial Hall, 2008

Expert Witness Testimony:

Guardian Arms LLC et al v Jay Inslee, May 2023

Federal Firearms Licensees of Illinois v Pritzker, March 2023 (Barnett v Raoul)

Steven Rupp v Rob Bonta, January 2023

Oregon Firearms Federation, Inc et al v Oregon Governor Kate Brown et al, December 2022

Washington State v Federal Way Discount Guns et al, December 2022

Virginia Duncan et al v Rob Bonta, November 2022

Ocean State Tactical et al v Rhode Island, October 2022

Senate Judiciary Subcommittee on the Constitution, Stop Gun Violence: Ghost Guns, May 2021

Franklin Armory et al v Bonta, February 2021

FN Herstal v Sturm, Ruger & Co, January 2021

Sturm, Ruger & Co. v American Outdoor Brands Corp., October 2020

Guedes v BATFE, June 2019

Miller v Becerra (Bonta), November 2019

Regina (Nova Scotia) v Clayton, January 2019

Garrison v Sturm, Ruger & Company, Inc. 2018

Selected Media Work:

Writer/Producer. Mountain Men: Ultimate Marksman. History Channel, May 2022

(Current) Regular Contributor. *Our American Stories* Podcast, 2022

Co-Host. History Unloaded Podcast. Various platforms with Wyoming Public Media, 2018-2022, 6 seasons (Current)

Producer & On Camera Expert. *Gun Stories with Joe Mantegna*, Outdoor Channel, 2015-2022, 8 seasons (Current)

Producer & On Camera Expert. *Man vs History*, History Channel & Matador Productions, 2020 (aired 2021)

Co-Host. *Master of Arms*, Discovery Channel & Matador Productions, 2018. 1 season

Consulting Producer. *Brothers in Arms*. History Channel, 2018. 1 season.

On Camera Expert. *Rob Riggle: Global Investigator*. Discovery Channel, 2020.

Recurring Expert. *Mysteries at the Museum*. Travel Channel. 2017-2019

Casting Consultant. *Gun Shop Project*, Vice Media & Cineflix Productions, 2020

On Camera Expert. *American Genius Colt V. Wesson*. National Geographic. 2015

Also appears on: Public Broadcasting Service, National Public Radio, Travel Channel, National Geographic, Popculture.com, Media, Entertainment, Arts, worldwide (MEAWW), Women's Outdoor News, Outdoor Life, Shooting USA, Gun Talk Media, National Shooting Sports Foundation, various firearms related podcasts.

Has been profiled by: *The Bourbon Review*, *Recoil Magazine*, *Outdoor Life Magazine*, *Guns.com*, *Blue Press Magazine*, and others.

Selected Lectures/Panels:

Panelist. Asheville Ideas Fest. June 2023

Guest Speaker. Gun Rights Policy Conference, October 2022

Guest Speaker. Second Amendment Foundation Legal Scholars Forum, September 2022

Guest Lecturer and Panelist. AmmCon. Second Amendment Foundation, October 2021

Guest Lecturer. Armed for Revolution. Royal Armouries, September 2021

Guest Speaker. Preserving Firearms Heritage. Gun Rights Policy Coalition, 2020

Guest Lecturer. Art of Collecting. Nevada Museum of Art. January 2020

Panelist. Firearms and Museums in the 21st Century. National Council for Public History. March 2019.

Scholars Roundtable. Coltsville National Historic Site. Organization of American Historians & National Park Service, March 2019.

Forum Speaker. The Art of the Hunt: Embellished Sporting Arms in America. New Orleans Antique Forum, August 2018

Guest Lecturer. Unloading the Gun: Firearms, History, and Museums. Yakima Valley Museum, June 2018

Guest Lecturer. Perpetrators and Protectors: The Mob, The Law and Firearms, National Museum of Law Enforcement and Organized Crime (Mob Museum), September 2017

Organizer. Arsenals of History: Firearms and Museums in the 21st Century, Buffalo Bill Center of the West, July 2017

Lecturer. The Cody Firearms Museum, Arsenals of History Symposium, Buffalo Bill Center of the West, July 2017

Moderator. Addressing the Press: Firearms and the Media, Arsenals of History Symposium, Buffalo Bill Center of the West, July 2017

Moderator. Forming an Association: Legitimizing Firearms in Academic Study, Arsenals of History Symposium, Buffalo Bill Center of the West, July 2017

Guest Lecturer. Displaying the “Politically Incorrect,” C.M. Russell Museums and Complex, May 2017

Guest Lecturer. Displaying the “Politically Incorrect,” Blackhawk Museum, March 2017

Panelist. Curator Roundtable, Firearms and Common Law Symposium, Aspen Institute, September 2016

Guest Lecturer. Displaying the “Politically Incorrect,” Canadian Guild of Antique Arms Historians, April 2016

Guest Lecturer. The Cody Firearms Museum Renovation, American Society of Arms Collectors, September 2016

Guest Lecturer. From Protector to Perpetrator: Demystifying Firearms in History, Art Institute of Chicago, November 2015

Guest Lecturer. Winchester '73: The Illusion of Movie Making, Winchester Arms Collectors Association, July 2014

Guest Lecturer. Unloading the Six Shooter: Disassembling the Glamorization and Demonization of Firearms in the Arts, Buffalo Bill Center of the West, 2011

Selected Firearms Exhibitions:

Curator/Project Director. *Cody Firearms Museum Renovation*. Buffalo Bill Center of the West. 2019

Co-Curator. *The Art of the Hunt: Embellished Sporting Arms from 1500-1800*. Houston Museum of Natural Sciences. March 2019

Curator. *Glock Makes History: The Birth of the Polymer Handgun Market*. Buffalo Bill Center of the West. June 2016

Guest Curator. *Designing the American West: The Artist and the Inventor*. C.M. Russell Museum & Complex. February 2016

Curator. *The Greatest Gun Designer in History: John Moses Browning*. Buffalo Bill Center of the West. December 2015

Curator. *Journeying West: Distinctive Firearms from the Smithsonian Institution*. Buffalo Bill Center of the West. December 2015

Curator. *The Forgotten Winchester: Great Basin National Park*. Buffalo Bill Center of the West. June 2015

Curator. Western Firearms Gallery, including *Shoot for the Stars: The Tradition of Cowboy Action Shooting*. Buffalo Bill Center of the West. April 2015.

Curator. *Steel Sculptures: Engraving Individuality from Mass Production*. Buffalo Bill Center of the West. Winter 2014.

Certifications:

Certified Firearms Instructor, Basic Pistol, 2016

Certified Firearms Instructor, Personal Protection Inside the Home, 2016

Well Armed Woman Instructor Certification, 2016

Museum Studies Certification, University of Delaware, 2013

Grants:

National Endowment for the Humanities, 2017

Institute of Museum and Library Services, 2017

Gretchen Swanson Family Foundation, 2015, 2016, 2017, 2018, 2019, 2020

Kinnucan Arms Chair Grant, 2012

Fellowships:

Firearms Curatorial Resident, Buffalo Bill Center of the West, 2013

Edward Ezell Fellowship, University of Delaware, 2012

Buffalo Bill Resident Fellowship, Buffalo Bill Center of the West, 2011

Committees and Memberships:

Board Member – Walk the Talk America

Founding President – Association of Firearms History and Museums

- Academic association for the study of firearms history in United States

Founder – Arsenal of History Symposia Series

- First international symposia series on the academic study of firearms

Spokesperson – NSSF/AFSP Suicide Prevention and Project ChildSafe Programs

American Alliance of Museums – Member

American Society of Arms Collectors – Member

Winchester Arms Collectors Association – Honorary

Remington Society of Arms Collectors – Member

Weatherby Collector's Association –Life Member

Publication History

Editorial Board – Armax Journal

Selected Articles:

Author. "Guns and Mental Health." *Recoil Magazine*, Upcoming

Author. "Colt Single Actions and Safety." *Armax Journal*, October 2021

Author. "Guns and Partisan Politics." *Recoil Magazine*, January 2021

Author. "Feminism & Firearms." *Recoil Magazine*, Summer 2020

Author. "Burton Light Machine Rifle." *Recoil Magazine*. October 2019

Founder/Editor/Author. *Arsenals of History Journal*, Annual Publication, 2018 - Present

Author. "It's Complicated: The Short Answer to Firearms, Museums and History." *Journal of the Early Republic – The Panorama*, September 2018.

Contributor. "Firearms Curator Roundtable" *Technology & Culture Journal*, August 2018

Author. "Displaying the 'Politically Incorrect.'" *CLOG X Guns*: Chicago, IL, September 2017

Author. "Does History Repeat Itself? The Smith & Wesson LadySmith." *CLOG X Guns*: Chicago, IL, September 2017

Author. "Renovating the Cody Firearms Museum." *International Committee of Museums and Collections of Arms and Military History Magazine*. Issue 17, May 2017. Pg. 38 - 41

Author. "Renovating the Cody Firearms Museum." *American Society of Arms Collectors Journal*. Fall 2016.

Author. "Glock Exhibit Opening." *Glock Magazine*. Bang Media. Annual 2017

Author. "The 28 Most Notable Guns from Remington's 200-Year History." *Outdoor Life Magazine*. Bonnier Corporation, 2016

Author. "Cassie Waters: Businesswoman of the Old West." *Guns of the Old West*. Harris Publications, Spring 2016

Author. "Making History: GLOCK Pistols at the Cody Firearms Museum" *Glock Magazine*. Harris Publications. Annual 2016

Author. "Pocket Pistols: 10 Seminal Guns from the Past 300 Years." *Pocket Pistols*. Harris Publications. 2016

Author. "The Gun that Won the Western and the Unforeseen Stars of *Winchester '73*" *Guns of the Old West*. Harris Publications.

Author. "Frontier Profile: Jedediah Strong Smith" *American Frontiersman*. Harris Publications

Author. "Frontier Legend John Johnston." *American Frontiersman*. Harris Publications

Author. "The Guns of John Johnston." *American Frontiersman*. Harris Publications

Author. "Annie Oakley VS Lillian Smith: A Female Sharpshooter Rivalry." *Guns of the Old West*. Harris Publications, Spring 2015

Author. "Icons and Has-beens." *American Handgunner*. FMG Publications, 2014

Author. "Triggering Memory: American Identity in *Cowboys and Aliens*." *Points West*. Spring 2012

Author. "Unloading the Six-Shooter: Disassembling the Glamorization and Demonization of Firearms in the Arts." *Points West*, Fall 2011.

Columns:

Author. Old School Series. *Recoil Magazine*

Author. Flashback. *Concealment Magazine*

Author/Brand Ambassador. *The Bourbon Review*.

Author. *American Association for State and Local History*. Summer 2019

Author. "Weird West: Fact or Fiction" *Guns of the Old West*. Athlon Outdoors (formerly Harris Publications)

1st Assault Rifle

Colt VS Winchester Revolver

Did Winchester Really Win the West?

Oliver Winchester's Lever Action Shotgun

Remington Cane Gun

Author. "Cowboy Action Round Up." SHOT Show New Products. *Guns of the Old West*. Athlon Outdoors (formerly Harris Publications). 2015, 2016, 2017

Reviews:

Reviewer: Edited by Jonathan Obert, Andrew Poe, and Austin Sarat. Oxford: Oxford University Press, 2018. *Journal of Technology & Culture*, Fall 2019

Author. "Everybody Loves an Outlaw: Taylor's Outlaw Legacy Revolver Series." *Guns of the Old West*. Harris Publications

Reviewer: Richard Rattenbury. *A Legacy in Arms: American Firearms Manufacture, Design and Artistry, 1800-1900*. *Chronicle of Oklahoma*, Spring 2016

Selected Blogs & Vlogs:

Recoil Magazine

Weekly video series beginning October 2017 to Present

Dillon Precision

Historical Videos on Ammunition (Upcoming)

Outdoor Life

Top 10 Guns in American History
Guns of the Old West: 10 Iconic Firearms and the Legendary Men (and Women) Who Shot Them
13 of the Biggest Gun Fails in Recent Firearms History
Gun of the Week:
John Martz Luger
Apache Revolver
German Frei Pistol
King Louis XV Embellished Blunderbuss
Armalite AR-17 Shotgun
Getting the Christmas Goose with a Goose Rifle & Cutaway Suppressor
Mossberg Brownie
Wesson & Leavitt Belt Revolver
William Harnett and the Faithful Colt 1890
Winchester Model 1894 Lever Action Rifle
Ruger Semi-Automatic Pistol, 1 of 5,000
Herb Parson's Winchester Model 71 Lever Action Rifle
Lincoln Head Hammer Gun
American Trap Gun
Browning Brother's Single Shot Rifle Patent
Feltman Pneumatic Machine Gun
U.S. Springfield-Allin Conversion Model 1866 Trapdoor Rifle
Winchester Wetmore-Wood Revolver
Webley-Fosbery Automatic Revolver
Hopkins & Allen XL3 Double Action Revolver
DuBiel Modern Classic Rifle
Colt Model 1877 "Thunderer" Double Action Revolver
Tom Tobin's Colt Model 1878 Frontier Revolver
Walch 10-Shot Double Hammers Pocket Revolver
Winchester Model 1887, Serial No. 1
Deringer vs Derringer
The Forgotten Winchester 1873 of Great Basin National Park

Range 365

To the One Who Got Away

Gun Review: New Glock 19 Gen 5

Ain't She a Pistol? 10 Historic Gun Ads Featuring Women

National Shooting Sports Foundation

The Gun Vault:

Winchester 1873 Found in Great Basin National Park
Col. Jeff Cooper's Colt MK IV Series 80
500+ Year Old Firearms, Matchlocks, Flintlocks
U.S. Presidents Guns
Cross Dominance Shotgun
Herb Parson's Winchester Model 71 Rifle
Audie Murphy's Colt Bisley Revolver
4 Gauge Winchester Wildfowler
Pocket Pistols
Henry Ford's Winchester Model 1887 Lever Action Shotgun
Tom Knapp's First Gun
Buffalo Bill Cody's Winchester 1873
Colt Model 1861 Navy Serial No. 1
Cassie Waters' Hopkins & Allen XL3 Revolver
Glock 17

The Truth About Guns

Presidential Presentation Rifles
Factory Cut-Away M16A1
1854 Smith & Wesson Repeating Rifle (Serial Number 8)
Winchester World's Fair Model 1866 Deluxe Sporting Rifle
Raymond Wielgus Collection
Gastinne-Renette Muzzleloading Percussion Target Pistols
Oliver Winchester's Jennings Repeater
Henry Ford's Winchester Model 1887
Winchester Model 1866 Musket in .44 Rimfire
English Wheellock
Southern Belle American Long rifle
Annie Oakley's Model 1892 Smoothbore Rifle
Catherine the Great of Russia's Blunderbuss Gift to King Louis XV of France
Color Case-Hardened GLOCK 43: Merging the Old West with the New
Buffalo Bill Center of the West – Unloading the Myth
The Cody Firearms Museum – Yesterday, Today, and Tomorrow
Guns of the Week – Christmas List
Guns of the Week: December 15-19
Guns of the Week – The Cody Firearms Museum
Guns of the Week – German Firearms
Guns of the Week – Scheutzenfest
Guns of the Week – Air Guns
Guns of the Week – Early Firearms Law
Guns of the Week – October 13-17
Guns of the Week – Ingenious Engineering
Guns of the Week – Remington – Smoot
Guns of the Week – September 22-26; 15-19; 8-12
CSI: Firearms Museum Edition

Confessions of a Gun Historian
Art Guns: Aesthetics Over Function?
What Good's a Gun Without a Firing Pin?
Gun Installations, Trials & Tribulations
A True Test of Marital Trust and Love
Remembering Tom Knapp
Cody Firearms Museum Goes Hollywood
When Will My Firearms Go On Display
What's Your Cody Firearms Museum
To Vlog or Not to Vlog
We Don't Just Have Old Guns in Our Museum: SHOT Show 2014
Taking a Staba at Displaying More Guns
"Hi Yo Silver" Cook Away! Lone Ranger Display
The Shooting Wire
Winchester's 150th Anniversary Website
Remington's 200th Anniversary Website

Exhibit B: Definitions

Air Rifle: a rifle that fires projectiles with compressed air.

Fire lance: early gunpowder weapon in which a barrel would be attached to a longer weapon.

Flintlock: A firearm that uses a piece of flint to strike a steel plate, known as a frizzen, to spark and fire the gun

Frizzen: steel plate on a flintlock that the flint strikes to create spark.

Gunpowder: an explosive consisting of a mixture of saltpeter, sulfur, and charcoal

Hand cannon: a cannon that fits in your hand.

Lock plate: the plate on the side of the firearm that contains the springs and mechanical components necessary to fire a gun from matchlock to percussion ignition.

Long rifle: an American made firearm that was popular in the colonies and early America. It had a longer barrel and a smaller caliber than European variations of sporting arms.

Matchlock: the first ignition system, utilizing a slow burning match to fire the gun

Metallic cartridge: Both rimfire and centerfire and contains all components of a cartridge within a metal case.

Minie ball: the first successful conically shaped projectile, named for its inventor Claude Etienne Minie

Percussion: an internal combustion system that utilized a fulminate compound to send a spark inside the barrel of the gun to fire it

Percussion Cap: the cap used to create the spark of a percussion ignition firearm. It contains a fulminate, typically mercury.

Silencer: a sound suppression device that also hides muzzle flash and causes recoil reduction

Smokeless powder: explosive propellant that produces less smoke than gun powder.

Superposed: a type of repeating firearm in which projectiles and powder are stacked like a roman candle.

Wheellock: an ignition system that utilizes a serrated disc that spins slightly to spark a piece of pyrite and fire the gun.

Exhibit C: Hand Cannon



From the Cody Firearms Museum, Buffalo Bill Center of the West Collection.

Exhibit D: Matchlock



Reproduction Matchlock made by Eric Von Aschwege

Exhibit E: Early Target Shooting Medal



(obverse)

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A GERMAN PARCEL-GILT SILVER TARGET SHOOTING PRIZE
DRESDEN, DATED 1537, UNMARKED

Formed as a large shaped circular pendant medallion suspending two smaller openwork medallions, the moulded border with applied foliage and inner laurel wreath centering on a cherub's mask with suspension ring above, the centre *repoussé* and chased with a huntsman with raised matchlock rifle amongst scrolling flowers and foliage, standing beside an escutcheon of arms of Dresden held by a putto, the backplate engraved with inscription within scrolling foliage incorporating two figures supporting a target above and a standing putto below, the smaller pendant shields each formed as a foliage and berried wreath enclosing an escutcheon, engraved with instruments emblematic of the building trade, one further engraved with initials BK, coat-of-arms and date 1541, the reverse with inscription and date 1540, the other with initials HR, coat-of-arms and date 1563, the reverse with date 1562, within engraved wreath

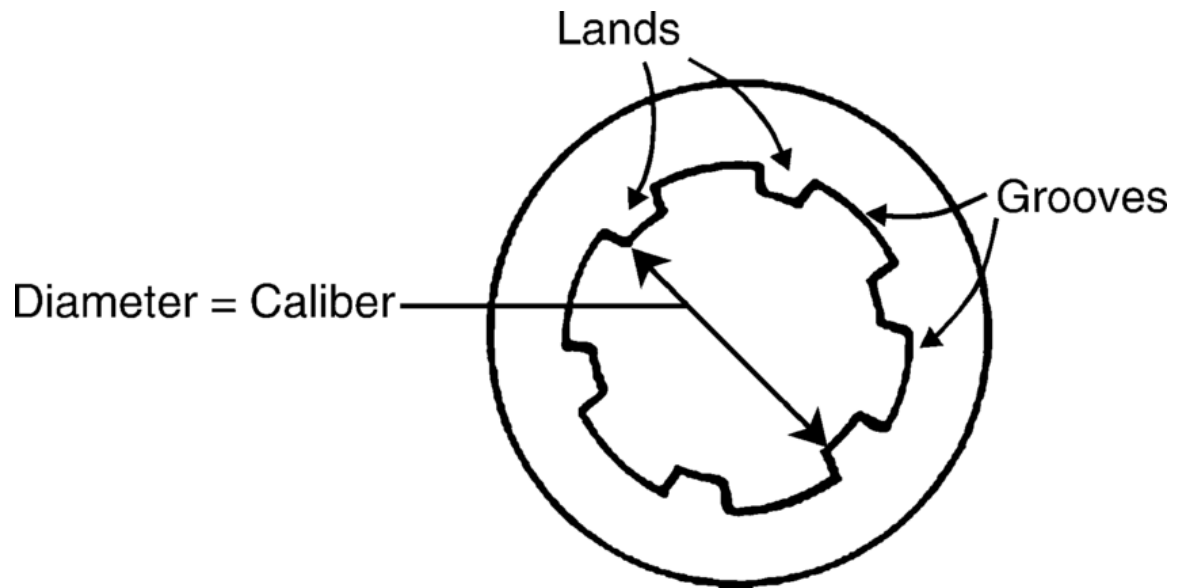
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Exhibit F: Wheellock Pistol



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West.

Exhibit G: Rifling Diagram



www.researchgate.net

Exhibit H: American Long Rifle



Warfarehistorynetwork.com

Exhibit I: Double Barrel (Swivel Barrel) American Long Rifle



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West
<http://collections.centerofthewest.org/argus/bbhc/Portal/bbhc.aspx?lang=en-US>

Exhibit J: Centerfire Olympic Biathlon Rifle



Note the thumbhole stock and palm rest which exist to stabilize the gun for precision target shooting

From the Cody Firearms Museum Collection, Buffalo Bill Center of the West.

Exhibit K: Multi-Barrel Hand cannon



From the Cody Firearms Museum collection, Buffalo Bill Center of the West.

Exhibit L: 16-Shot Wheellock



From the National Firearms Museum and pictured in *America's First Freedom* magazine.

Exhibit M: Kalthoff Magazine-fed Repeater



Google Image Search

Exhibit N: Lorenzoni Style Magazine-fed Repeater



ROYAL ARMOURIES

Royal Armouries Collection in Leeds, UK.

Exhibit O: Dafte Revolver



Royal Armouries, Leeds, UK.

Exhibit P: Wetschgi Magazine-fed Firearm



Christie's Auction

Exhibit O: Cookson Magazine-fed Repeater:



From the collection of VAM in South Kensington, UK

Exhibit S: Belton Superposed Pistol (Reproduction)



Rock Island Auction

Exhibit T: Girardoni Air Rifle



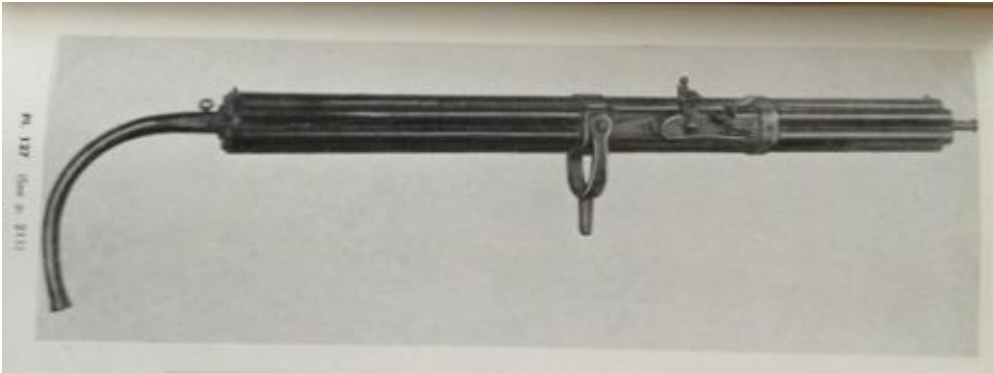
Google Image Search

Exhibit U: Duck's Foot Pistol



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit V: Chambers Multi-Barrel Firearm



www.historicalfirearms.info

Exhibit W: Jennings Repeater



Google Image Search

Exhibit X: South Carolina Gazette Estate Sale (1736)

NUMB. 125.

THE
South-Carolina Gazette.

Containing the freshest Advices Foreign and Domestick.

From **Saturday, JUNE 12,** to **Saturday, JUNE 19, 1736.**

THE SAID JOHN DONNING, at the EXAMINATION of JOHN BRAND
 afore said.

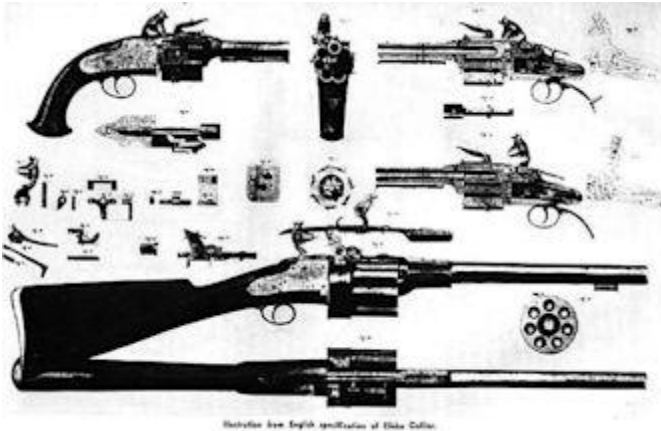
This is to give Notice to all Persons that have any Demands on the Estate of Mr. *Joseph Massey* deceased, to bring in their Accounts, in order that all possible means may be used to discharge the same, and all such as are indebted to the said Estate, are desired to pay the same by the 1st of *August* next without fail, to *Philip Massey* Administrator of the said Estate, living at the Sign of the Cross Guns between Mr. *John Brand* and the Printer. He has to be sold a Silver hilted small Sword, two Silver Watches, a six times repeating Gun, a chamber'd Gun, and a double barrel Gun, &c. a pair of Smith's large double bellows, a new Anvil with a Beack-iron to it, sundry pair of large Vices, sortment of Files and many other tools, &c. a history of Mines and Minerals, *Harris's* Lexicon technicum, in Folio two Volumes, and many other Books of the Mathematicks, all which will be sold very reasonable for ready Money.

N.B. Whereas a Book in folio, intituled, *the Construction and principal use of all mathematical Instruments*, translated from the French of Mr *Bion* by *Edm Store*, and several other Books have been lent out by the Deceased, the Persons who have the same in possession are kindly intreated to return them to

PHILIP MASSEY.

To be Sold to the highest Bidder on the 29th of July next, the residue of the Slaves, Horses, black Cattle & Sheep, Plate and Plantation tools, late belonging to the Estate of *Th: Donning* deceased, at the Pond's Plantation, N.B. The Sale to begin at 10 o'clock in the morning. The Money to be paid down before the Delivery, or the Sale to

Exhibit Y: Collier Revolver



Google Image Search

Exhibit Z: Pepperbox Pistol



Google Image Search

Exhibit AA: Colt's February 1836 Patent

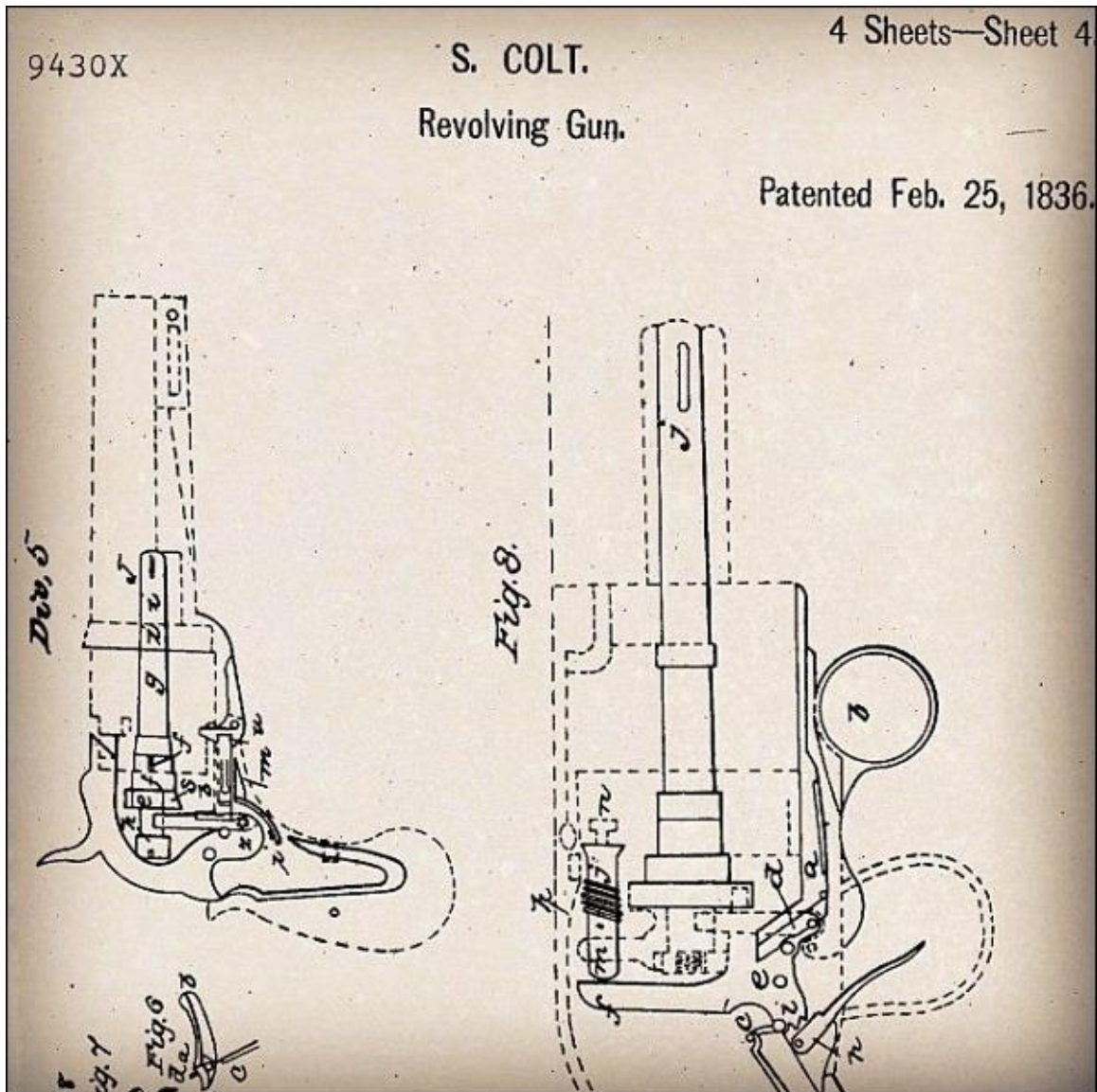


Exhibit BB: Porter Turret Rifle



Gunsinternational.com

Gunsinternational.com

Exhibit CC: Lindner Patent Prototype



Private Collection

Exhibit DD: Smith & Wesson Revolver



Collector's Firearms

Exhibit EE: Volcanic Pistol and Rifle



Winchester Arms Collector's Association

Exhibit FF: Henry Rifle



Google Image Search

Exhibit GG: Winchester Model 1866 Rifle



Google Image Search

Exhibit HH: Evans Repeating Rifle



Google Image Search

Exhibit II: Savage Model 1899 with Rotary Magazine



Armlist.com

Exhibit JJ: Borchardt C93 Semi-Automatic Pistol



Christie's Auction

Exhibit KK: Mauser C96 Semi-Automatic Pistol



Collector's Firearms

Exhibit LL: Colt Model 1911 Semi-Automatic Pistol



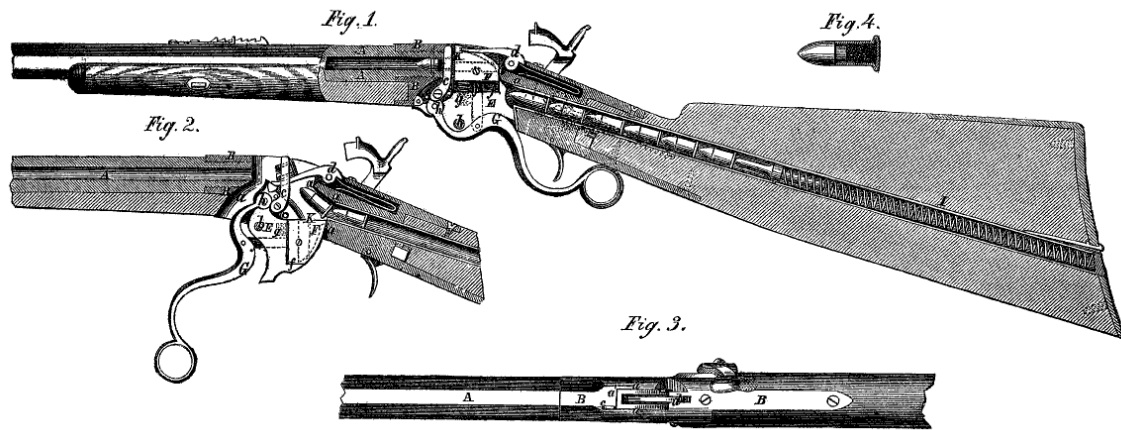
Google Image Search

Exhibit MM: Hunt Volitional Tubular Magazine Rifle



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit NN: Spencer Magazine



Google Image Search

Exhibit OO: Genhart Magazine



From the Cody Firearms Museum collection, Buffalo Bill Center of the West

Exhibit PP: Jarre Magazine



From the Cody Firearms Museum collection, Buffalo Bill Center of the West.

Exhibit OO: Rollin White Patent

R. WHITE.
REPEATING FIREARM.
No. 12,648. Patented Apr. 3, 1855.

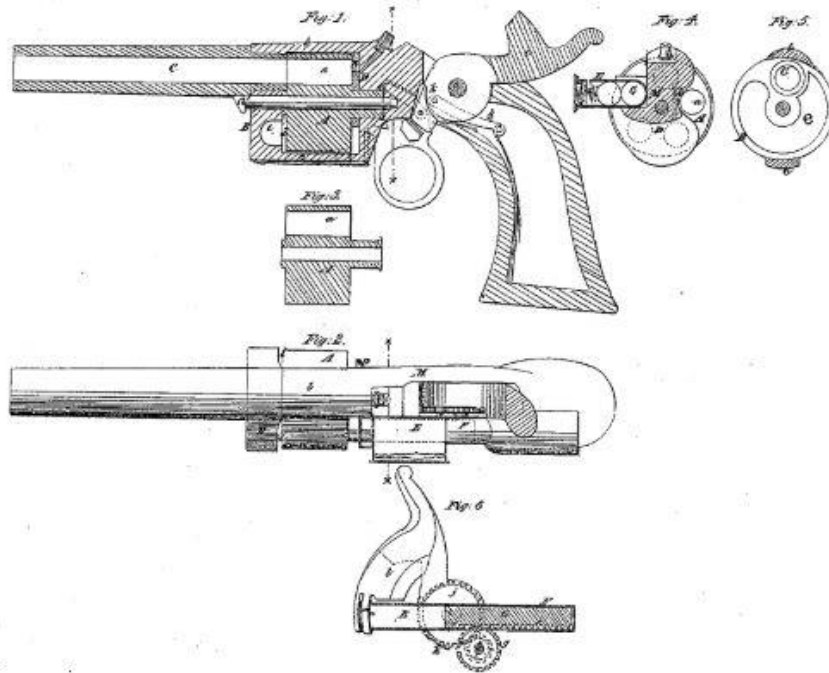


Exhibit RR: Robert Wilson Patent

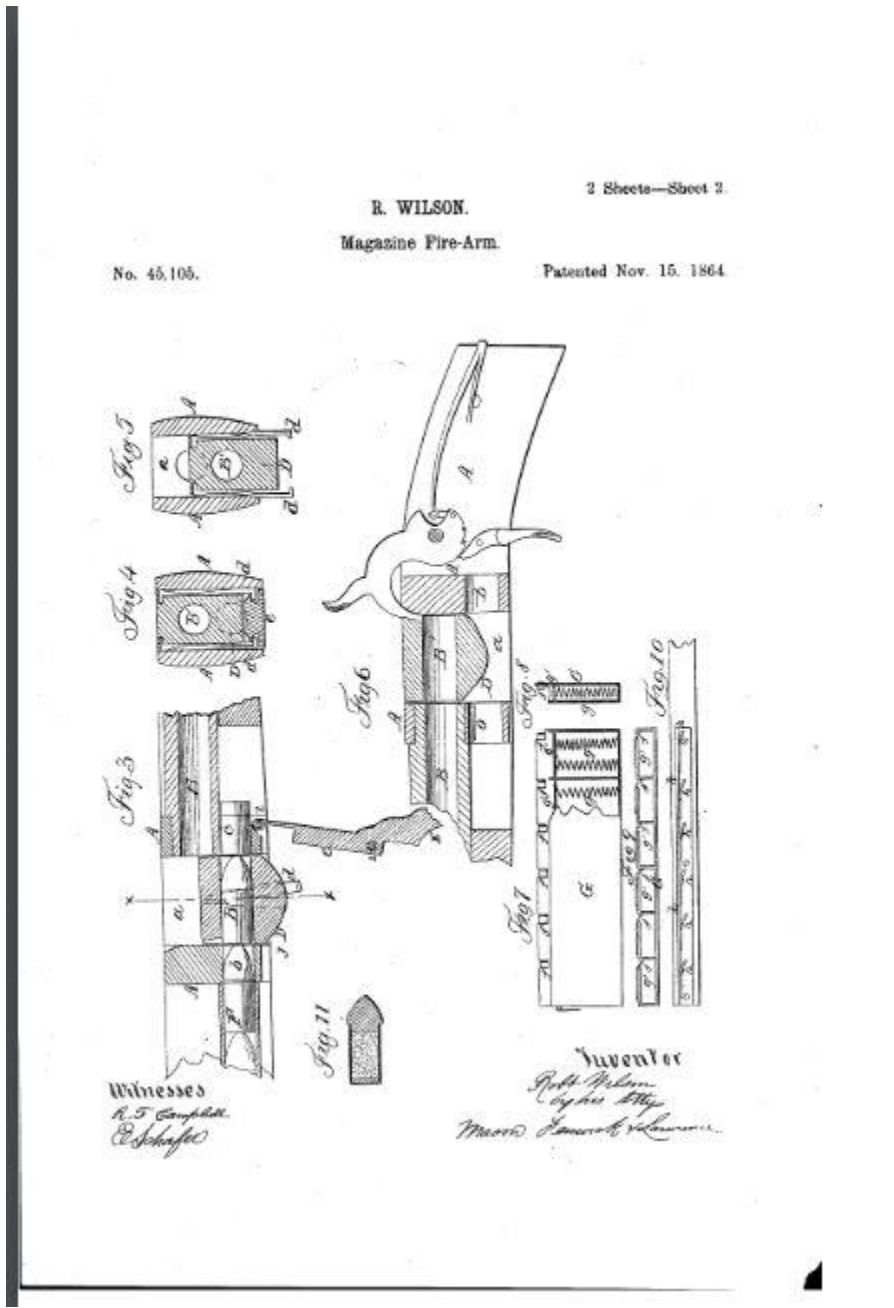
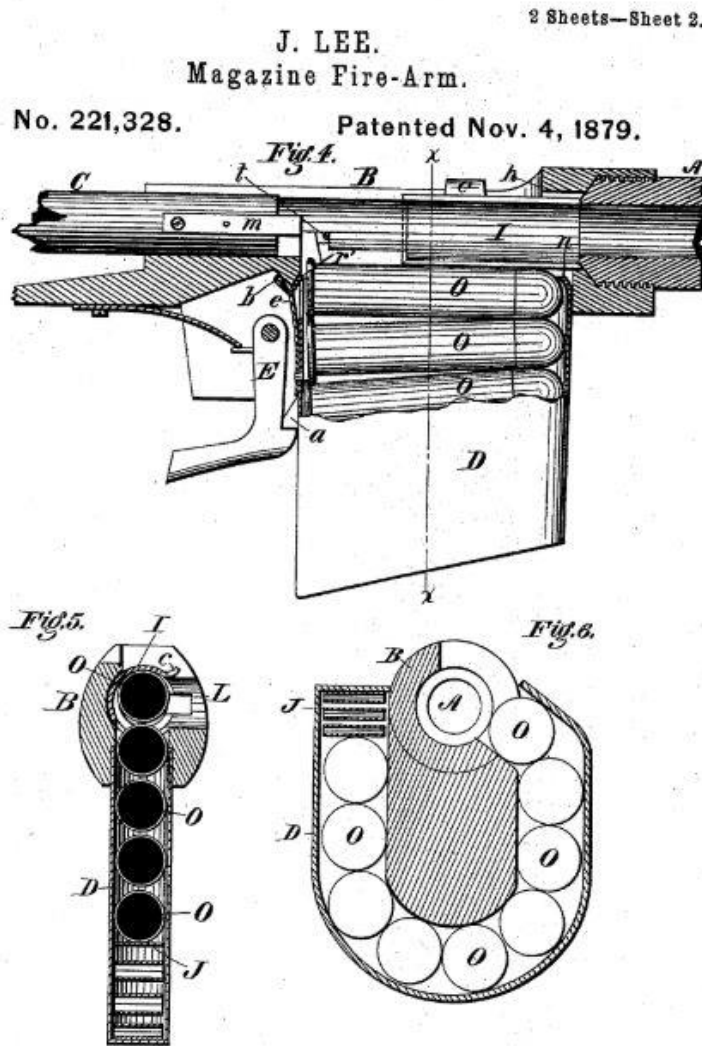


Exhibit SS: James Paris Lee Patent



Witnesses:
Donn B. Twitchell
D. P. Cowl

Inventor:
James Lee
By Dodge & Son,
Attys

THE KODAK PICTURE CO. PHOTOGRAPH, NEW YORK, N. Y.

Exhibit TT: Schuetzen and Frei Firearms



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit UU: Pistol Grips with Detachable Stocks

Flintlock pistol with detachable stock



Austrian Pistol with a straight pistol grip like the New Jersey statutes



Colt Model 1851 with detachable stock



Borchardt with detachable stock



Mauser with detachable stock



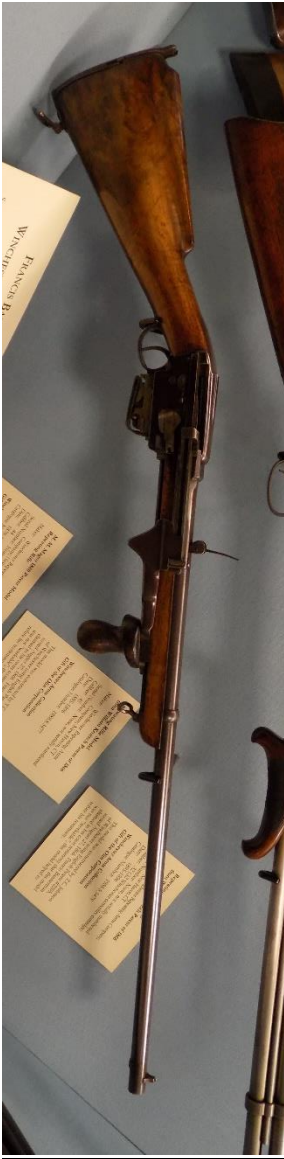
From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit VV: M1 Carbine with Pistol Grip and Folding Stock



Google Image Search

Exhibit WW: Magot Rifle



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit XX: Folding Stock Blunderbuss



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit YY: Try Guns – Made to fit a Gun to the User



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit ZZ: Flash Suppressor on a Lee Enfield



Google Image Search

Exhibit 18

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UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY
TRENTON VICINAGE
ASSOCIATION OF NEW JERSEY : Civil Action No.
RIFLE & PISTOL CLUBS, et : 3:18-cv-10507
al., :
Plaintiffs, :
v. : DEPOSITION UPON
MICHAEL PLATKIN, et al., : ORAL EXAMINATION
: OF
: ASHLEY HLEBINSKY
Defendants. :
----- X -----
MARK CHEESEMAN, et al., : Civil Action No.
Plaintiffs, : 1:22-cv-4360
v. :
MICHAEL PLATKIN, et al., :
Defendants. :
----- X -----
BLAKE ELLMAN, et al., : Civil Action No.
Plaintiffs, : 3:22-cv-04397
v. :
MICHAEL PLATKIN, et al., :
Defendants. :
----- X -----
TRANSCRIPT of the stenographic notes of
the proceedings in the above-entitled matter, as
taken by and before ELLEN J. GODINO, CCR, RPR, CRCR,
held from multiple locations via Zoom Teleconference,
with the witness located at 2124 East Kerry Lane,
Phoenix, Arizona, on Friday, August 11, 2023,
commencing at 10:06 a.m.

1 A P P E A R A N C E S :

2
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11
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Attorneys for Defendants Attorney General of

17 New Jersey, the Superintendent of the New Jersey

State Police, the Camden County Prosecutor and the

18 Ocean County Prosecutor

19 ALSO PRESENT:

20 Nicholas Kant, Esq.

I N D E X

Examinations

Page

A S H L E Y H L E B I N S K Y

5

EXAMINATION BY MR. VANNELLA

5

EXAMINATION BY MR. SCHMUTTER

141

EXHIBITS

NumberDescription

Page

Hlebinsky-1	Expert Report of Ashley Lynn Hlebinsky entitled, "600 Years of Historical Development of Firearms Technologies Generally Associated with Assault Weapons Bans and Magazine Limitations," No Bates, 100 Pages	10
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REQUESTS

Page

Line

.....	29	21
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1 THE REPORTER: The attorneys
2 participating in this deposition acknowledge that I
3 am not physically present in the deposition room and
4 that I will be reporting this deposition remotely.
5 They further acknowledge that, in lieu of an oath
6 administered in person, I will administer the oath
7 remotely. The parties and their counsel consent to
8 this arrangement and waive any objections to this
9 manner of reporting. Please indicate your agreement
10 by stating your name and your agreement on the
11 record.

12 MR. VANNELLA: Daniel Vannella,
13 Assistant Attorney General, and I'm appearing on
14 behalf of the Attorney General of New Jersey, the
15 Superintendent of the New Jersey State Police, the
16 Camden County Prosecutor and the Ocean County
17 Prosecutor.

18 MR. SCHMUTTER: Daniel Schmutter from
19 the firm of Hartman & Winnicki. I represent the
20 plaintiffs in the Association of New Jersey Rifle
21 and Pistol Clubs case and the Ellman case.

22 MR. DIGUISEPPE: Good morning,
23 co-counsel for the plaintiffs, Ray DiGuiseppe from
24 DiGuiseppe Law Firm.

25 MR. VANNELLA: I should have mentioned

1 there were couple of other people from my office who
2 are just listening in on the deposition.

3 MR. SCHMUTTER: Before you start, can I
4 put on the record we're requesting under Rule 30(e)
5 the right to review the transcript, and if
6 appropriate, make corrections.

7 A S H L E Y H L E B I N S K Y, 2124 East Kerry
8 Lane, Phoenix, Arizona, having been duly sworn,
9 testified as follows:

10 EXAMINATION BY MR. VANNELLA:

11 Q. Good morning, Ms. Hlebinsky.

12 A. Good morning.

13 Q. My name is Dan Vannella. I'm an
14 Assistant Attorney General for the State of
15 New Jersey. We are here today in the matters of
16 Association of New Jersey Rifle and Pistol Clubs
17 versus Platkin and Ellman versus Platkin and
18 Cheeseman versus Platkin.

19 Among all those matters, I represent
20 defendants Attorney General of New Jersey and
21 Superintendent of the New Jersey State Police, and
22 in the Cheeseman matter, I also represent the Camden
23 County Prosecutor and the Ocean County Prosecutor.

24 The Association of New Jersey Rifle and
25 Pistol Clubs case is challenging New Jersey's

1 regulation of large-capacity magazines, and the
2 Ellman case, as well as the Cheeseman case, are
3 challenging New Jersey's regulation of assault
4 firearms.

5 And we are here today for your
6 deposition. Now, am I correct that you have had
7 your deposition taken before?

8 A. I have.

9 MR. DIGUISEPPE: Can I interrupt for
10 just a moment to clarify something? I'm just here
11 in an observation capacity, but just since we're
12 being specific about which parties we represent, I
13 only represent the Cheeseman plaintiffs, the
14 plaintiffs in the Cheeseman case. That's all.
15 Thank you.

16 BY MR. VANNELLA:

17 Q. So although you indicated you have had
18 your deposition taken before, all the same, for the
19 sake of the record, I'm going to provide you with a
20 few instructions.

21 A. Okay.

22 Q. If at any time during the deposition
23 you do not hear a question clearly, please ask the
24 court reporter to repeat it. If at any time you do
25 not understand my question, please ask me to clarify

1 it. If you answer a question, it will be assumed
2 that you understood it.

3 A. Okay.

4 Q. If you do not know or do not remember
5 certain information, please say so.

6 Please wait until I finish my questions
7 before you start answering. Please convey all of
8 your answers orally. The court reporter cannot
9 record facial expressions or gestures.

10 A. Okay.

11 Q. If at any time you need to take a
12 break, please let me know. All I ask is that we
13 take breaks after you have finished answering a
14 question.

15 A. Okay.

16 Q. From the time you were sworn in until
17 the end of the deposition, there is to be no
18 communication between yourself and your counsel
19 concerning the substance of this deposition, unless
20 it relates to the assertion of a privilege, a right
21 to confidentiality, or a limitation pursuant to a
22 previously-entered court order.

23 A. Okay.

24 Q. Do you understand all of these
25 instructions?

1 A. I do.

2 Q. Is there any reason why you cannot give
3 accurate testimony today?

4 A. No.

5 Q. Now, Ms. Hlebinsky, it's been
6 represented to me by my opposing counsel that you
7 have been retained as an expert specifically in the
8 Association of New Jersey Rifle and Pistol Clubs
9 litigation and the Ellman litigation, but not the
10 Cheeseman litigation.

11 Is that your understanding as well?

12 A. That's my understanding.

13 Q. Did you speak with anyone in
14 preparation for your deposition today?

15 A. I did.

16 Q. And who was that?

17 A. I had a phone call with Mr. Schmutter.

18 Q. Okay. Did you speak with anyone else?

19 A. No.

20 Q. When did you have a phone call with
21 Mr. Schmutter?

22 A. On the 9th of August.

23 Q. Okay. And approximately how long was
24 that phone call?

25 A. I think about two hours.

1 Q. Did you review any documents in
2 preparation for this deposition?

3 A. I did.

4 Q. And what were those documents?

5 A. I reviewed my own report, and then I
6 skimmed the reports of Manny Kapelsohn, as well as
7 Clayton Cramer's, and my deposition from January of
8 2023.

9 Q. Okay. When you say your deposition
10 from January of 2023, is that -- was that for the
11 matter of Oregon Firearms Federation?

12 A. Correct.

13 Q. Now, you mentioned Emanuel Kapelsohn.
14 Did you speak with Mr. Kapelsohn at any point
15 regarding this deposition?

16 A. I did not.

17 Q. Did you speak with Mr. Cramer regarding
18 this deposition?

19 A. I did not.

20 Q. All right. I'm going to try to share
21 with everyone on Exhibit Share what I'm going to
22 mark as Exhibit 1, and let's see if I can?

23 MR. SCHMUTTER: Dan, is that the
24 Veritext platform that we were sent?

25 MR. VANNELLA: Yes.

1 MR. SCHMUTTER: Okay.

2 THE WITNESS: And just to let you guys
3 know, I've two monitors set up. So when you see me
4 avert my eyes, I'm going to be looking at the
5 Exhibit Share, because I've got a web cam right in
6 front of me for when I talk to you. But I just
7 wanted you to know, that's where I'm looking is my
8 other monitor.

9 MR. DIGUISEPPE: Sorry, Dan -- Dan
10 Schmutter. Do you have access to those exhibits;
11 are you seeing them?

12 MR. SCHMUTTER: I'm actually trying to
13 log in. I just realized that I don't remember the
14 password.

15 MR. VANNELLA: Why don't we go off the
16 record just for a minute.

17 (Off-the-record discussion.)

18 (Exhibit 1, Expert Report of Ashley
19 Lynn Hlebinsky entitled, "600 Years of Historical
20 Development of Firearms Technologies Generally
21 Associated with Assault Weapons Bans and Magazine
22 Limitations," No Bates, 100 Pages, was received and
23 marked for identification.)

24 Q. Okay. So I will direct your attention,
25 Ms. Hlebinsky, to what has been marked as Exhibit 1.

1 But before we get there, there was one
2 other question I meant to ask. I had asked you if
3 you reviewed any documents in preparation for this
4 deposition. I now want to ask if you have brought
5 any documents with you today for your deposition?

6 A. The only document I have is just a
7 printed-out version of my report.

8 Q. Okay. Any notes?

9 A. No.

10 Q. All right. Thank you. So, I now want
11 to direct you to what has been marked as Exhibit 1
12 for purposes of this deposition. I'll represent
13 that I received this document from Mr. Schmutter on
14 August 15, 2023.

15 Do you recognize this document?

16 A. Sorry, it's buffering. It appears to
17 be the report that I wrote.

18 Q. Okay. Is it?

19 A. I was shuffling between exhibits, I
20 apologize, I was using the software incorrectly.
21 But yes, that appears to be the report I wrote.

22 Q. Okay. And is this a complete and
23 accurate copy of the report you wrote for -- for
24 these matters?

25 A. I just scrolled through it, and without

1 looking at it line-by-line to make sure it's exactly
2 what I submitted, but it appears to be.

3 Q. Is this document signed by you
4 anywhere?

5 A. It is not.

6 Q. But you did prepare this report?

7 A. Yes.

8 Q. And did you prepare the entirety of
9 this report?

10 A. I did.

11 Q. And so I have to ask again: Is
12 Exhibit 1 the same report in its entirety that you
13 prepared?

14 A. Oh, Exhibit 1? It appears to be.

15 Q. Okay.

16 MR. SCHMUTTER: Dan, let me just
17 mention if you need a signature, just let me know,
18 and we'll get you one.

19 MR. VANNELLA: Okay, we're not asking
20 for any at this time. I think I might be able to
21 just ask a couple of questions to be satisfied.

22 Q. And did you prepare this report at the
23 request of Mr. Schmutter, to be submitted in the
24 Ellman matter and the Association of New Jersey
25 Rifle and Pistol Clubs matter?

1 A. I did.

2 Q. And only those two matters. Correct?

3 A. Correct.

4 Q. This document also does not appear to
5 include a date on which it was completed. Is that
6 correct?

7 A. That appears to be correct.

8 Q. What was the date that you completed
9 this report?

10 A. I'm not sure of the exact date. If I
11 recall correctly, the submission was June 15th. So
12 it would have been -- I think that was the correct
13 date for the submission, so it would have been
14 sometime that week.

15 Q. Okay. So not -- not prior to the week
16 of June 15, 2023, at least?

17 A. What do you mean by "not prior to the
18 week"?

19 Q. So sometime in the week of June 15,
20 2023, is when you completed this report?

21 A. If that was the submission date for the
22 report, then, yeah, it was that week.

23 Q. Are all of the statements and
24 conclusions offered in this report your own?

25 A. They are.

1 MR. SCHMUTTER: And Dan, I'll just
2 suggest if you need an exact date, just let us know
3 and we'll get you one.

4 MR. VANNELLA: All right, thank you.

5 BY MR. VANNELLA:

6 Q. Sitting here today, Ms. Hlebinsky, do
7 you confirm and stand by all of the statements and
8 conclusions that you render in this report?

9 A. I do.

10 Q. Is there anything else you would like
11 to add to this report that you would rely on, in
12 support of the testimony you intend to render in
13 these matters?

14 A. I don't think so, no.

15 Q. Did you bill for your services in
16 preparing this report?

17 A. I did.

18 Q. How much are you billing for your
19 services in preparing the report?

20 A. In preparing the report, \$450 an hour.

21 Q. Are you billing for your services in
22 giving deposition testimony today?

23 A. I am.

24 Q. And how much are you billing for those
25 services?

1 A. \$500 an hour.

2 Q. Have you or are you also billing for
3 any work you performed in preparing for the
4 deposition testimony today?

5 A. You mean just preparation for it, not
6 writing something else?

7 Q. Correct.

8 A. Okay. Yes, I am.

9 Q. And how much are you billing for that
10 service?

11 A. For the preparatory, is \$450 an hour.

12 Q. Are you billing for any other services
13 that you are providing in these two matters?

14 A. No.

15 Q. Other than Exhibit 1, is there any
16 other document that you've prepared and provided to
17 Mr. Schmutter's firm, with the expectation that it
18 would be served on the parties in these matters?

19 A. No.

20 Q. Now, included with this report are
21 numerous exhibits attached at the end of the report,
22 which appear to be labeled A through Z, followed by
23 double A through double Z. Is that correct?

24 A. Correct.

25 Q. So I now want to direct your attention

1 to Exhibit A of this report. And it appears to
2 begin on the 37th page of the document.

3 A. Correct.

4 Q. Now, this is titled "Ashley Hlebinsky
5 Curriculum Vitae." Is that correct?

6 A. That's correct.

7 Q. Is Exhibit A of this report a complete
8 and current version of your curriculum vitae, as of
9 today?

10 A. I believe the only thing that is not on
11 it is an article I just submitted for the American
12 Society of Arms Collectors Journal, which I
13 submitted last month.

14 Q. Is that to be published --- sorry, go
15 ahead, answer that question.

16 A. It will be, in a private collector's
17 journal.

18 Q. Is there anything else that you need to
19 add or correct in this curriculum vitae?

20 A. I don't think so.

21 Q. So I now want to direct your attention
22 to starting on page 8 of your report.

23 A. Okay.

24 Q. On the bottom of page 8 and going into
25 page 9, you include a list of matters that you title

1 "Prior Expert Witness Testimony." Correct?

2 A. Correct.

3 Q. Now, one of the matters on this list is
4 called "Senate Judiciary Subcommittee on the
5 Constitution, Stop Gun Violence: Ghost Guns,
6 May 2021."

7 Is that testimony that you provided to
8 the U.S. Senate?

9 A. It was for a specific subcommittee of
10 the Senate.

11 Q. Are the rest of the matters on this
12 list court matters?

13 A. They are.

14 Q. For the court matters on this list,
15 when you say "prior expert witness testimony," do
16 you mean deposition testimony, trial testimony, or
17 both?

18 A. Both.

19 Q. Okay. Does this list represent all of
20 the court cases in which you have rendered expert
21 testimony, either in deposition or in trial?

22 A. It looks to be all the cases that I've
23 worked on. But just a clarifying question, for
24 deposition or testimony, do you also include the
25 written testimonies into that?

1 Q. So I'll break it down. I was asking
2 specifically about a verbal deposition testimony or
3 oral deposition testimony, like what we're doing
4 today. And I'll ask you a separate question about
5 written declarations.

6 So I'll narrow my question down: Do
7 these include all the matters in which you have
8 orally testified, either in deposition or at trial?

9 A. I have not orally testified in all of
10 these cases.

11 Q. Okay. But out of the cases in which
12 you did testify orally, are they all included on
13 this list?

14 A. They are.

15 Q. So if I could ask, out of the cases on
16 this list, which ones did you submit a written
17 declaration? Or as you put it, written testimony?

18 A. I submitted a written declaration for
19 all of these. The Senate Judiciary Subcommittee is
20 obviously different than a court case, but I did
21 submit a report for that as well.

22 Q. And out of the cases on this list,
23 which ones did you provide oral deposition testimony
24 in?

25 A. Oral deposition testimony was for the

1 Oregon Firearms Federation Case, the Miller v.
2 Becerra case, and the Garrison v. Sturm, Ruger &
3 Company case.

4 Q. And out of the cases on this list, in
5 which cases did you provide testimony at trial?

6 A. I provided testimony at trial in the
7 Oregon case, and then in an evidentiary hearing for
8 Miller.

9 Q. Now, the Oregon Firearms Federation
10 Case concerned, in part, a challenge to Oregon's law
11 regulating the capacity of firearm magazines that
12 may be used by private civilians. Is that correct?

13 A. That's correct.

14 Q. And in that matter, plaintiffs were
15 challenging that law, based, at least in part, on
16 the Second Amendment. Is that correct?

17 A. That is correct.

18 Q. So out of the other cases that you
19 mentioned, besides the Oregon case, did any others
20 concern a challenge to a law based on the Second
21 Amendment?

22 A. Yes.

23 Q. And which cases were those?

24 A. Guardian Arms, the Federal Firearms
25 Licensees, Rupp v. Bonta, State of Washington,

1 Duncan, Ocean State Tactical, and then Miller and
2 Guedes.

3 Q. Out of those cases that you cited, did
4 any concern challenges to laws regulating firearms
5 that private civilians may own?

6 A. Yes.

7 Q. Which ones?

8 A. I believe all of them.

9 Q. Did any of those cases concern
10 challenges to laws regulating magazines
11 specifically?

12 A. And by magazines specifically, are you
13 referencing capacity?

14 Q. Sure, yeah, capacity of magazines.

15 A. I believe -- are you looking for just
16 magazines? Or cases that have more than one target?

17 Q. I guess my question is: In any of
18 these cases, did they include, at least as one of
19 their challenges, a challenge to -- to laws
20 concerning the size or the capacity of magazines?

21 A. Okay. I believe then that would be
22 Guardian, Federal Firearms Licensees, Rupp, Oregon,
23 Duncan, Ocean State. And Miller addressed magazines
24 as well, although it was a bigger umbrella.

25 Q. Now, out of the cases that you

1 mentioned that concerned a challenge based on the
2 Second Amendment, did you, as an expert, testify in
3 support of the challenger of the law, or in defense
4 of the law?

5 A. I was hired by the plaintiffs in the
6 case.

7 Q. So in none of those cases you were an
8 expert on the side that was defending the law?

9 A. That's correct.

10 Q. Have your qualifications as an expert
11 ever been rejected by a Court in a litigation matter
12 in which you were held out as an expert?

13 A. I am not sure.

14 Q. Have your opinions proffered as an
15 expert ever been challenged or rejected by a Court
16 in a litigation matter in which you were held out as
17 an expert?

18 MR. SCHMUTTER: Objection, compound
19 question.

20 A. Can you reframe?

21 Q. All right. Have your opinions
22 proffered as an expert ever been rejected by a Court
23 in a litigation matter in which you are held out to
24 be an expert?

25 A. I'm not sure. I don't follow those

1 matters after my work is done.

2 Q. Do you know if your opinions have ever
3 been challenged in a litigation matter in which you
4 were held out as an expert?

5 A. Yes.

6 Q. Okay. And in the last -- strike that.
7 Which cases?

8 A. Which cases?

9 Q. Were your opinions challenged, that
10 you're aware of?

11 A. Do you mean a rebuttal? Specifically?

12 Q. Sure. I'll -- if you can answer that
13 question first. Have your opinions ever been
14 challenged by way of rebuttal experts in any of
15 these matters?

16 A. I believe so, in terms of rebuttals.
17 I'm unsure of all of them, but I know that there
18 were rebuttals in Oregon. I believe there was a
19 rebuttal in Duncan, and then I believe there were
20 rebuttals in this case.

21 Q. Okay. And to your knowledge, have your
22 opinions ever been subject to a motion to strike
23 their admissibility?

24 A. I'm not sure I'm following.

25 Q. Are you familiar with a Daubert motion?

1 A. No.

2 Q. Okay. I'll move on.

3 In the last ten years, what percentage
4 of your income has been driven from your work as an
5 expert in litigation matters?

6 A. That's -- that's tough to estimate,
7 because my main basis of salary until 2020 was the
8 Cody Firearms Museum. And I don't know the exact
9 percentage breakdown, but typically, the bulk of my
10 work has focused on museums.

11 And it's really only been in the past
12 year, since the Bruen decision, where I've done more
13 cases rapidly. Typically, they've been spread out,
14 few and far between, throughout my career.

15 Q. And just judging by again your list of
16 prior expert witness testimony, they all occurred
17 within the last five years, it appears. Is that
18 correct, or at least from 2018 to the present?

19 A. That is correct.

20 Q. Are you currently involved with any
21 litigation matter, other than these matters,
22 involving the State of New Jersey or any of the
23 State's departments or employees?

24 A. No.

25 Q. Are you currently providing any

1 consultant or expert services to the State of New
2 Jersey, or any of its departments or employees?

3 A. I'm not.

4 Q. So, Ms. Hlebinsky, what is your current
5 occupation?

6 A. I'm a consultant, and within that
7 position, I hold a lot of different titles,
8 depending on the institution that I'm working for.
9 I -- my consulting kind of has an umbrella for
10 history in general, firearms-related history in
11 general. And that breaks down into museum work,
12 which runs anything from, you know, creation of
13 founding documents up through actual content
14 exhibition, implementation.

15 And then there's also a portion of my
16 work that involves expert testimony, when called
17 upon. I do write periodically for popular
18 magazines, and I've been working with the University
19 of Wyoming, College of Law Firearms Research Center,
20 but that's actually been on my own time.

21 But basically, the umbrella is firearms
22 history, and then I break down with different
23 clients for different purposes.

24 Q. So would you consider yourself a
25 historian?

1 A. I do.

2 Q. What qualifies you to be a historian?

3 A. The title "historian," there's a lot of
4 different ways that people interpret what that
5 means. Within the firearms world, historically
6 speaking, a historian is someone who studies and
7 researches firearms history, arms history, other
8 related kind of subject matters, military history;
9 and then dissects that history and utilizes it for
10 some type of public outreach and education.

11 In my fashion, it's been focused
12 primarily on museums, and writing content for
13 museums. But within that gun community
14 specifically, you will see kind of a range of
15 firearms historians with different backgrounds. But
16 usually, it all focuses on the study of history, and
17 then the actual application of that.

18 Q. Do you hold any degrees in history?

19 A. I have a master's degree in American
20 history, and a bachelor's degree in American
21 history.

22 Q. Do you have a Ph.D. in history?

23 A. I do not.

24 Q. Would you agree that, in general, most
25 historians recognized in the field as such hold

1 PhD's in history?

2 A. How are you defining "historian"?

3 Q. Well, are you saying there's a
4 difference in the types of historians that there are
5 out there?

6 A. There's a spectrum of different
7 expertises that come with the position of historian.
8 Anything from somebody working for a company; there
9 are a lot of companies that have the title of
10 historian, and they have a historian working for
11 them. But sometimes they're not trained through the
12 academic university system, but they're still a
13 historian.

14 And then there are people who are
15 trained through the academic university system that
16 have a range of degrees, and they typically hold the
17 position of a professor, adjunct professor.
18 Especially in this world, it's very gray.

19 Q. You mentioned that you are a historian
20 particularly in the field of firearms history. Is
21 that correct?

22 A. That is correct.

23 Q. Do some firearms historians like
24 yourself have Ph. Ds, to your knowledge?

25 MR. SCHMUTTER: Objection,

1 misrepresents the record.

2 A. I think for me, the question goes back
3 to what you're meaning by "historians," since it is
4 a so gray area.

5 Q. Well, the subject area that you are
6 here today holding yourself out as an expert, how
7 would you describe that specifically?

8 A. In terms of firearms history, it's like
9 I stated: It's somebody that studies and researches
10 firearms and related history, and then processes
11 that, analyzes that, and then applies it to a
12 specific discipline.

13 And my focus is always been on public
14 education. And in that realm, most of the time,
15 people who are or would be classified as a firearms
16 historian by kind of that community don't
17 necessarily have a Ph.D. You typically see Ph.Ds,
18 in my world -- and especially in the museum world
19 with firearms, you specifically see that with art
20 museums, more than you see that with anything else.

21 Q. But for some that are in that field, do
22 they hold Ph.Ds?

23 A. Some do. But it's not a qualifying
24 factor for the study of history.

25 Q. For your master's degree, did you

1 prepare a dissertation?

2 A. I did not. That was not the focus of
3 the university's master's program.

4 Q. Have you ever authored scholarly
5 articles in peer-reviewed history journals?

6 A. I have written for several
7 peer-reviewed publications in different capacities.

8 Q. And what are those articles?

9 A. I wrote an article on Colt-type single
10 actions, and passive versus active safeties. And
11 the -- from the 19th century up through the 1970s,
12 for a firearms journal called Armax. It's recently
13 been rebooted; it's an older journal.

14 Q. Let me stop you there, I'm sorry, I
15 should have broken it down. We'll go through it one
16 by one.

17 So you mentioned this Armax Journal
18 article. I think -- I believe you cite to it in a
19 footnote in your report. Is that correct, or am I
20 mistaken on that?

21 MR. SCHMUTTER: Do you have a page,
22 Dan, so she can check?

23 MR. VANNELLA: Yeah, I may have
24 misspoken.

25 BY MR. VANNELLA:

1 Q. Page 43 of your report, it's in
2 Exhibit A of your report.

3 A. Yeah, in my CV?

4 Q. Yes.

5 A. Are you looking under "Publication
6 History"?

7 Q. Yeah, on the bottom of page 43, there's
8 an article called "Colt Single Actions and Safety"
9 published in the Armax Journal in October of 2021.
10 Is that the article you were referring
11 to?

12 A. That's correct.

13 Q. Now, I'll represent I was unable to
14 obtain it, because it appears to be online, but it's
15 blocked by a pay wall.

16 Do you have a copy of this article?

17 A. I probably have a copy of it in a
18 journal in my house somewhere.

19 MR. VANNELLA: Counsel, if I could, I
20 would request a copy of the report be provided to
21 us. Or the article, I should say.

22 MR. SCHMUTTER: Please put the request
23 in writing, and we'll have a look at it.

24 Q. So what was this article about?

25 A. This article was specifically about

1 the -- the history of Colt-type single actions, and
2 the ways that you carry -- or the ways that people
3 carry a Colt historically. And in terms of the
4 post-World War II period, through the lens of
5 litigation against Ruger, what they called the old
6 model revolvers, that were in the style of the
7 original Colt single actions.

8 MR. SCHMUTTER: Can I ask the court
9 reporter to make a list of all requests of counsel?
10 Thank you very much.

11 Q. So did this article address firearms
12 specifically from the Founding era of the United
13 States?

14 A. No.

15 Q. So I think you mentioned there was more
16 than one article. What was another article that
17 you -- in a peer-reviewed history journal that you
18 have authored?

19 A. I was a part of a kind of roundtable
20 discussion that was reviewed for the Journal of
21 Technology and Culture. It was originated from the
22 Aspen Institute's Symposium on Firearms and Common
23 Law, and it was moderated by Jennifer Tucker of
24 Wesleyan University. And so we all contributed to a
25 set of questions, and then that was reviewed through

1 the journal's internal process, and published.

2 Q. So that's what you mean when you say it
3 was peer-reviewed?

4 A. It was in peer-reviewed, that's what
5 you asked.

6 Q. But is that the typical way that
7 articles are considered to be peer-reviewed?

8 A. It depends.

9 Q. What do you mean by that?

10 MR. SCHMUTTER: Objection to the form.

11 THE WITNESS: Sorry, I didn't mean to
12 speak over you, Dan.

13 MR. SCHMUTTER: You can answer the
14 question.

15 A. The reason I say "it depends" is
16 because there's peer review in terms of in the
17 university system for specific publications, but
18 then there's also different ways that documents are
19 reviewed in the firearms history world. It's just
20 not always considered the same, by the same standard
21 of individual publications. So it's variable.

22 Q. So you mentioned the Armax Journal
23 article and the roundtable article. Are there any
24 others?

25 A. In terms of specific peer-reviewed

1 journals, in terms of the more academic definitional
2 sense, I don't see any on here. Although I do serve
3 as a reviewer fairly regularly for Armax. I'm a
4 blind reviewer.

5 And the other thing that I always point
6 out as well is that I spent a decade building a
7 museum. And through that specific process, and
8 that's what showcases some limitations on my
9 publication history, is because I was responsible
10 for writing pretty much all the content for a
11 40,000-square-foot museum.

12 And I set that entire process up with a
13 peer-reviewed system, so that the information could
14 be vetted by people of multiple disciplines and
15 backgrounds. So when we put together the Cody
16 Firearms Museum, which reopened in 2019, that was
17 all completely done with the aid of peers from
18 differing expertises, backgrounds, so that we had
19 the most holistic representation when we rebuilt the
20 museum.

21 But that's been the focus of -- the
22 bulk of my career was rebuilding the Cody Firearms
23 Museum.

24 Q. Well, as it turns out, that's what I
25 was just going to ask you about right now, so I'll

1 move on to the Cody Firearms Museum.

2 You currently no longer serve as
3 curator of the museum. Is that correct?

4 A. That's correct.

5 Q. What time period did you serve in that
6 position?

7 A. I believe I was curator from 2015 to
8 2020.

9 Q. So for the time period in which you
10 served as the curator, can you describe the
11 collection that was maintained at the Cody Museum?

12 A. And I was with Cody prior to that, and
13 with Cody after that, but the collection remains the
14 same, just so you know.

15 The collection at Cody is -- it's an
16 encyclopedic collection, so it represents a little
17 bit of everything from firearms history. So the
18 collection has some of the earliest firearms, hand
19 cannons from differing -- from Europe, from Asia.
20 And then it all goes all the way up through having
21 modern firearms, including a couple of 3D-printed
22 firearms, which were added around the time of the
23 reopening of the museum.

24 The collection is international in
25 scope, although the original -- the original kind of

1 collection that started the museum was acquired
2 through the Winchester Repeating Arms Company, when
3 it was still in existence.

4 And so that collection initially
5 started off as collecting pre-Winchesters,
6 competitors to Winchesters, Winchesters as they were
7 produced. And then that collection was merged with
8 an employee's collection, which is where we got a
9 lot of the diversified international arms.

10 As well as things other than firearms:
11 Crossbows, edged weapons, accoutrements, holsters,
12 that kind of things. And so that diversified the
13 Winchester collection, in and of itself, to be an
14 international, 700-plus-year history.

15 And then from there, that grew to have
16 other large collections via smaller, individual
17 donations.

18 But it's a pretty good representation
19 of the entirety of firearms history, with specific
20 areas of focus in -- some specific areas of focus.

21 Q. So approximately how many items, if
22 that's the right term, in total are -- were in this
23 collection?

24 A. I use the term "artifacts" for this,
25 because it denotes artifacts versus something at

1 random that could be sitting there that's not a part
2 of the collection. It was about just under 7,000
3 firearms. And it was somewhere between -- I want to
4 say it was like 23 to 30,000 related artifacts.

5 And that was specifically for the Cody
6 Firearms Museum. It is a part of a bigger complex,
7 and each museum has their own specific collection.

8 Q. So you mentioned the term
9 "accoutrements," and it's spelled
10 A-C-C-O-U-T-R-E-M-E-N-T-S.

11 What does that term mean?

12 A. For the museum purpose, it's a catchall
13 for items that are associated with firearms, but not
14 necessarily the firearm itself. So that's typically
15 for scabbards, holsters. Cody would sometimes have
16 uniforms, uniform pieces, hats, canteens.

17 So it -- it's anything that isn't
18 really firearms-related, but at some point was
19 collected. It's not a very precise term; it was
20 just kind of the way that we described all the other
21 things that were in the collection that didn't
22 really specifically connect to a firearm.

23 Q. So when you use the term
24 "accoutrements" and you testified earlier that there
25 were approximately 7,000 firearms, did that 7,000

1 include any accoutrements, or do you not include
2 accoutrements in that number?

3 A. I mentioned that there were about 7,000
4 firearms, and there were under 30,000 related
5 artifacts. That estimate for firearms is
6 firearm-specific. However, some -- a lot of times,
7 if someone is donating something, they may donate a
8 firearm, a book, a uniform.

9 And so it doesn't mean it's not in the
10 same collection, but when I say "firearm," it's if
11 you were in the cataloguing software and you
12 keyword-searched "firearm," that's where you come up
13 that 7,000 -- just under 7,000 figure.

14 Q. So that 7,000 figure would not include
15 what you described as accoutrements?

16 A. No, unless they were given a number, a
17 catalog number with it. Then it wouldn't pop up in
18 the -- at least I'm trying to explain it so it's not
19 too museum technical.

20 We give all artifacts that come into
21 the museum a number, corresponding to the year of
22 collection and the number of items in the
23 collection. So when you search firearms, you'll see
24 that under -- sorry, that under 7,000 number
25 specifically for firearm.

1 It doesn't mean that there's not other
2 pieces connected to that collection that came in,
3 but that under-7,000 number is firearm-specific.

4 Q. Does the museum's collection include
5 any firearms that would be considered rarities or
6 curiosities?

7 MR. SCHMUTTER: Objection, undefined,
8 foundation.

9 Q. Let me ask you this: Do you understand
10 what the term "rarity" means?

11 A. I'd like to know how you understand it,
12 to make sure I'm answering it correctly.

13 Q. A one-of-a-kind or, you know, very few,
14 if any, copies of an item?

15 A. Yes.

16 Q. Okay. Did the museum's collection
17 include any artifacts that you would consider to
18 fall under that category?

19 A. Yes.

20 Q. Approximately what percentage of the
21 collection consisted of those?

22 A. I'm not sure. It wouldn't be the
23 majority.

24 Q. Now, while you served as curator, did
25 you go about developing the collection for the

1 museum?

2 A. What do you mean by "developing"?

3 Q. Did you expand the collection for the
4 museum?

5 A. We didn't do a lot of active
6 collecting. That's one of the nice things about
7 having such a large collection, is that you're not
8 needing to really go out and actively seek other
9 large collections.

10 So we would strategically acquire items
11 that filled in the blanks, filled in holes in our
12 collection. And then we also -- especially leading
13 up to the renovation, we also worked towards
14 creating a list for deaccession; so items in the
15 collection that no longer fit the mission of the
16 museum, that can be approved by the Board of
17 Trustees to be deaccessioned and sent off to public
18 auction to benefit the collection's acquisition
19 fund.

20 So we did a little bit of both. But
21 nothing was -- nothing was that expansive, because
22 we already had a lot of the collection.

23 Q. Well, to the extent you did expand the
24 collection, was there anyone that you worked with,
25 outside of the museum staff, in doing so?

1 A. I'm not sure I'm understanding the
2 question.

3 Q. Did you outreach to anyone outside of
4 your museum staff in order to collect additional
5 artifacts?

6 A. I mean, if you're acquiring a specific
7 artifact, you're going to have to reach out to other
8 people, because you're reaching out to private
9 collectors, auction houses. But I mean
10 specifically, I don't know during that time. But I
11 mean, that's standard procedure, would be that you'd
12 be working outside of the museum to find the
13 collections.

14 If you can afford to purchase them for
15 an auction -- from an auction, great; if not, you're
16 looking at private collectors, and that's pretty
17 standard for any museum.

18 Q. So you did do so, then?

19 A. Talk to collectors about acquiring
20 collections?

21 Q. Yes.

22 A. Yeah.

23 Q. But you just don't remember who?

24 A. I talked to a lot of people.

25 Q. That's okay. If you don't recall, then

1 that's fine. But I just -- I do need to make sure
2 that the answers are clear, to the extent you're
3 able to give answers.

4 Did the museum advertise?

5 A. Yes.

6 Q. And how did it go about doing so?

7 A. I didn't work in the center's Marketing
8 Department. But I mean, from a curatorial
9 standpoint, we tried to have representation in as
10 many places as we could.

11 So this isn't like your strategic
12 marketing plan, but we wrote in as many trade
13 journals as we could, outdoor journals, to raise
14 awareness for the collection. We appeared at trade
15 shows, we spoke at collector's groups, universities,
16 special interest groups.

17 I did -- we did a lot of television,
18 because people would come and film the collections.
19 Those aren't like professional marketing strategies,
20 but I was not privy to those. But we tried to raise
21 awareness where we could, and have a presence in as
22 many arenas as we could.

23 Q. Did the museum receive donations from
24 members of the firearm industry during your time as
25 curator?

1 MR. SCHMUTTER: Objection to form, no
2 foundation, undefined.

3 A. How are you defining "firearms
4 industry"? Because culturally, in Wyoming, that can
5 be a broad category.

6 Q. I mean manufacturers or sellers of
7 firearms?

8 A. We did.

9 Q. Again, during the period of time you
10 served as curator, what percentage of your total
11 funding came from those sources?

12 A. I'm estimating, and I'm bad at
13 fractions, so I'm just going to give you an
14 estimated number. The budget for the renovation was
15 \$12 million. And from gun manufacturers, maybe
16 under \$2 million? The bulk of our donations for the
17 renovation were individuals, and private foundations
18 for those individuals.

19 Q. Okay. So just so I'm sure I understand
20 what you're saying, so at one point you mentioned, I
21 think in 2019, there was a renovation of the museum.

22 Is that what you're referring to by
23 "renovation project"?

24 A. Yes.

25 Q. And that project had a budget of

1 approximately \$12 million?

2 A. Correct.

3 Q. And out of that 12 million, your
4 estimate is about 2 million came from manufacturers
5 or sellers of firearms?

6 A. Correct. But again, it's an estimate,
7 the bulk of the money -- we had a \$4 million
8 matching grant, so I know about 8 million of that
9 came from individual private foundations. And so
10 I'm just estimating based on some of the numbers I
11 can recall, from when we were having donations come
12 in.

13 Q. Were any of those other donations from
14 organizations that advocate for gun rights?

15 A. I don't think so. I don't -- I don't
16 think so. The only thing that maybe would have been
17 a small donation from the NSSF for our safety
18 section, but I don't think we got anything from
19 them. We certainly didn't get anything from the NRA
20 or GOA or FPC, or any of those groups.

21 (Court Stenographer clarification.)

22 A. NRA, GOA, FPC, and then I just said any
23 other similar organizations.

24 Q. The NRA refers to the National Rifle
25 Association?

1 A. Correct.

2 Q. And the FPC refers to the Firearms
3 Policy Coalition?

4 A. Correct.

5 Q. And I'm sorry, GOA refers to what?

6 A. Gun Owners of America.

7 Q. Thank you.

8 A. I was just trying to list as many as I
9 can. That I can think of.

10 Q. I want to direct you now to page 5 of
11 your report, at the very bottom of page 5.

12 A. Okay, I'm looking at the page.

13 Q. I'm going to read the very last
14 sentence of page 5 going into page 6.

15 "Final contents for the museum was
16 peer-reviewed internally, and by an external panel
17 of experts, including academic historians, museum
18 professionals, teachers, public educators, gun
19 collectors and people unfamiliar with firearms, as
20 well as people with a range of different political
21 views on guns."

22 Is that correct?

23 A. That's correct.

24 Q. So what does "peer-review" mean in the
25 context of museum exhibits?

1 A. In terms of -- well, it's pretty
2 standard for most museum exhibits, but since this
3 was such a big project, we had lot more people
4 involved than you would for just a smaller exhibit.

5 Internally speaking, we had the Cody
6 Firearms Museum staff, which was small. And, you
7 know, we have the content, the knowledgeable people,
8 so we're aware of the collection, we're aware of the
9 history. And then there's the Education Department,
10 who monitors kind of the overall contextual
11 information, the education level of what we're
12 writing, voice, narrative.

13 So we have the Education Department.
14 We also have Collections Departments that review
15 material. So there's an entire internal approval
16 process that goes into writing any and approving any
17 panels or any materials that are published for the
18 museum or outside the museum.

19 And then we also brought in -- and some
20 of these people were the same people. We brought in
21 individuals who have different areas of expertise,
22 and had them review the overall script, so the
23 entire script of everything that was in the museum.
24 Or if they had a specialty in a specific area, we
25 had them look at that and review that material for

1 accuracy, voice.

2 And then the -- the one thing that we
3 wanted to also make sure that we did, and that's the
4 last part of that sentence. So I did make sure that
5 we had people -- because we're in Wyoming, so half
6 of our audience are people that are familiar with
7 firearms, half of them are not.

8 So I wanted to make sure, as we were
9 writing the material, that not only was it as broad
10 a history as we could produce, but also that we were
11 phrasing things in ways that wouldn't be triggering
12 to various audiences, and wouldn't cause kind of an
13 upset in facilitating dialogue.

14 And that's why I made sure to have
15 people in there that had differing opinions on guns,
16 so that we could change the voice, to try to make it
17 as approachable as possible.

18 Q. That process that you just described,
19 is that the same process that is undertaken when
20 we're talking about peer review of an academic
21 article?

22 A. In concept, yeah, to have other people
23 who specialize in that area review the material, and
24 vet the material.

25 Q. Would you agree that when we're talking

1 about peer review of academic articles, there's
2 usually or often a revise-and-resubmit feature, in
3 which the author must make changes or else the
4 article would not advance to publication? Do you
5 agree with that?

6 A. In terms of for those specific
7 publications?

8 Q. Yes.

9 A. Yes, I agree with that.

10 Q. Was there a similar process for the
11 museum exhibits that you were describing being
12 reviewed?

13 A. We did. If there were issues, we would
14 address them and send them back to individuals to
15 review.

16 Q. Now, going back to the sentence that I
17 read, you refer to, among others, academic
18 historians reviewed the exhibits. Is that correct?

19 A. That's correct.

20 Q. Who were the academic historians that
21 you're referring to?

22 A. I'm trying to remember who all we had.
23 I know Jennifer Tucker was one of them. We had
24 historians, I mean Herbert Houze reviewed the
25 material. Gosh, I can't remember. I can't remember

1 all the people, but I know Herb and Jennifer.

2 Q. Okay. Who is Jennifer Tucker?

3 A. She is a professor at Wesleyan
4 University.

5 Q. And what is her area of -- what is her
6 area of expertise, or area in which she is a
7 professor?

8 A. History of Technology. But she's been
9 doing a lot of work on firearms-related technology
10 history. I think she started off in photography --
11 history of photography, and then has been
12 instrumental in the study of firearms.

13 I mentioned her earlier, in terms of
14 the Aspen Institute, and I do believe she just
15 started her own Firearms in Culture Research Center.

16 Q. I'm sorry, I wrote the name down and I
17 can't understand my own handwriting. The second
18 person you mentioned is Herbert?

19 A. Herbert Houze.

20 Q. Houze. And he is a professor also?

21 A. No -- well, he's passed away. He was
22 an individual. He was the curator of the original
23 Cody Firearms Museum, and then he just worked in the
24 field as a historian; publishing books, doing
25 lectures, working with other scholars.

1 Q. And how do you spell his last name?

2 A. H-O-U-Z-E.

3 (Court Stenographer clarification.)

4 (A brief recess takes place.)

5 BY MR. VANNELLA:

6 Q. Ms. Hlebinsky, before the break, we
7 were asking questions about the review process,
8 which included an external panel of individuals.
9 This panel, did it offer feedback or critiques of
10 exhibits or artifacts?

11 A. So when we were doing the museum,
12 working on the museum, we created what's called an
13 exhibition narrative, that is all of the written
14 content for the museum. So it starts with the first
15 gallery, your first text panel, your sub-panels,
16 your labels, and it goes through the whole museum.
17 So that was the primary document that we had people
18 take a look at and review.

19 And then we did have a running object
20 list, which was a spreadsheet. Because we ended
21 having I think about 5,000 firearms on display,
22 10,000 rounds of ammunition. And so we had a
23 separate list that went gallery, case, you know,
24 order, and that was a lot more nuanced.

25 So with the objects, that was -- we did

1 have some people review exactly what the objects
2 were going to be in those spaces, but it was more
3 the narrative that we had reviewed.

4 Q. Would your exhibits -- or would the
5 museum's exhibits have moved forward if any feedback
6 or critiques that were offered was not addressed to
7 their satisfaction?

8 A. Ultimately, the call for what was
9 included and wasn't included was the internal team
10 at the Center. So the material was reviewed, and if
11 we were all in agreement, then we would move forward
12 with it. So we took everything into consideration.
13 If we made changes, we sent it back, in some cases,
14 to the people to review it and see if that helped
15 the situation.

16 And then it was ultimately the team,
17 the core team that we created within the center,
18 that was the final deciding factor on what ended up
19 getting included.

20 Q. When you say "final deciding factor"
21 and "the team," were you the final decision-maker,
22 or was it more than one person?

23 A. I was the project director, but we had
24 a committee -- we had a committee of different
25 representatives from the museum that were kind of

1 the leadership core.

2 Q. And these final decisions, were they
3 then made by a majority vote, or were you or someone
4 else the final decision-maker on that?

5 A. I don't think it was as formal as a
6 majority vote. I think it was just a consensus that
7 we were happy to move forward.

8 Q. And earlier, I believe you testified
9 that one of the considerations that the -- that the
10 external panel would give you insight on is
11 whether -- is about trying to avoid -- I think you
12 used the word "triggering," or offending people. Is
13 that correct?

14 A. I did use the word "triggering."
15 I don't know if it's so much offending
16 people. It was more trying to create an atmosphere
17 where people felt comfortable to ask questions and
18 have dialogue, while acknowledging that people can
19 be uncomfortable with firearms, or not have a
20 knowledge of firearms when they came in the museum.

21 So it was less about offending someone,
22 and more about just creating a good space for them
23 to ask questions, since this is such a controversial
24 topic in today's society.

25 Q. I'm not sure I fully understand what

1 that entailed. Is there an example that you could
2 provide, where that sort of consideration was that
3 resulted in differences in how an exhibit was
4 presented?

5 A. I'm not quite sure what you're asking.
6 Are you talking about an exhibit? I'm just not
7 quite sure what you're asking.

8 Q. Give me an example of when that
9 specific interaction was had with the panel on that
10 issue?

11 A. I'm trying to think of a specific
12 example other than just verbiage. I don't have a
13 great example, but if there was something that we
14 phrased that may be off-putting to somebody who
15 doesn't know about firearms, then we reworked it.

16 I can think of the notes on the page
17 from when we had it, of somebody mentioning that,
18 but I don't recall exactly what the example was.

19 Q. Even if you can't recall a specific
20 example, can you give examples of the types of
21 phrases that might have been off-putting to people,
22 based on their familiarity or lack of familiarity
23 with firearms?

24 A. Well, it's not just verbiage, though.
25 It's also placement of -- we had firearms

1 simulators, so placement of firearms simulators; the
2 volume that you would hear the firearms simulators,
3 to be aware of veterans who may have PTSD, or people
4 who have been involved in some type of violent
5 circumstance.

6 So it was, you know, positioning the
7 interactives in a way that wouldn't be abrasive when
8 someone came across them, but then also making sure
9 that the sound didn't bleed into the other galleries
10 when you would be learning about something else.

11 But I mean, it could be things as
12 sensitive as the way that you talk about death by
13 suicide. You know, now, these days, it's not
14 "suicide," it's "death by suicide." So it's small
15 things like that.

16 Q. Okay. So again, this collection as a
17 whole, which you estimated included approximately
18 7,000 firearms, as well as ammunition; is it
19 accurate to say that this collection as a whole was
20 not limited to firearms or ammunition that was
21 invented in the United States alone?

22 A. Correct.

23 Q. And is it also accurate to say that
24 this collection was not limited to firearms or
25 ammunition that was used in the United States alone?

1 A. Correct.

2 Q. Is it also fair to say that this
3 collection is not limited to the Founding era of
4 United States history?

5 A. Correct.

6 Q. And it's also not limited to the
7 Reconstruction era of United States history?

8 A. Correct.

9 Q. Between firearms, ammunition, and
10 accoutrements, what percentage of the total
11 collection would you say consists of those items
12 that were used or invented in the United States
13 during the Founding era?

14 MR. SCHMUTTER: Objection, lack of
15 foundation, non-defined.

16 A. I would have to sit and think about the
17 different sections of the museum to really get an
18 estimate on that, so I don't know.

19 Q. Okay. And what percentage of the total
20 collection would you say consists of firearms,
21 ammunition, or accoutrements that were used or
22 invented in the United States during that
23 Reconstruction era?

24 MR. SCHMUTTER: Same objection, lack of
25 foundation, undefined.

1 A. Again, I would have to sit and kind of
2 work my way through the collections, or even get
3 access to the cataloguing software to guess.

4 Q. Now, according to your curriculum
5 vitae, you are also the currently co-founder and
6 senior fellow of the University of Wyoming College
7 of Law's Firearms Research Center. Is that correct?

8 A. That's correct.

9 Q. Now, your report indicates that this
10 was founded in 2022. Correct?

11 A. That's correct.

12 Q. Is the center currently in operation,
13 or is it still in the process of beginning
14 operation?

15 A. I'm not sure how you're intending, how
16 you're meaning the difference.

17 Q. What is the -- what is the function of
18 the Firearms Research Center?

19 A. The Firearms Research Center is -- it's
20 in early stages, but it's been founded, it's been
21 approved by the faculty, and it's been moving
22 forward on several different initiatives. One of
23 the areas that the research center hopes to impact
24 is the university scholarship on firearms; not just
25 Second Amendment law, but also firearms history,

1 firearms -- an array of different disciplines across
2 disciplinary history of firearms; working with other
3 universities and research centers to take scholars
4 who have been siloed in the past, and provide a
5 place for that information to be gathered. And then
6 ultimately, to have people be able to come and study
7 some area of firearms discipline at the center.

8 There's also a component of public
9 outreach as well. We just partnered with the
10 Wyoming Department of Health and Veterans Affairs on
11 a suicide prevention initiative.

12 So we're doing -- that's kind of been
13 one of the biggest focuses, biggest pushes in terms
14 of public outreach right now, because of the issue
15 with suicide in the state of Wyoming, and obviously,
16 suicide nationally with firearms.

17 And so we're really focusing on that,
18 but that public outreach will extend to safety
19 classes, education classes, with firearms; and then
20 again, providing an outlet for students to focus an
21 area of research on firearms.

22 Q. So you mentioned the university
23 scholarship is -- and what the center is intending
24 to do. Is it currently undertaking any operations
25 for what you describe as university scholarship?

1 A. We just hosted -- every year, we do a
2 home-and-away workshop with Duke Firearms Law
3 Center. So in June of this year, we were the host
4 this year with Duke at Texas A&M, where we provide
5 an outlet for scholars on the Second Amendment to
6 come together over a few days, and present
7 works-in-progress papers that will become
8 scholarship.

9 And so that's one of the ways that we
10 are actively working to kind of identify scholars
11 around the country, and then work with a
12 firmly-established center that's been around for
13 obviously longer than us, in order to carry out that
14 mission.

15 Q. And with regard to public outreach, has
16 the center currently undertaken any operations in
17 advance of that?

18 A. Yes. We -- in November, we have -- we
19 haven't announced it yet, it's not private. But in
20 November, we're hosting a multi-day symposium with
21 the Wyoming Department of Health and Veterans
22 Affairs on not just suicide prevention, but we are
23 going to be providing a CLE on federal firearms
24 licenses, and temporary storage of firearms and
25 liability.

1 We're also providing -- we're bringing
2 in people from the mental health profession, to
3 provide a cultural competency course for clinicians
4 on understanding firearms owners.

5 And then doing a town hall with federal
6 firearms license holders on just kind of a summary
7 of the ATF ruling on out-of-home storage in a time
8 of crisis, as well as what the liability of a
9 license holder is in that circumstance.

10 There are programs around the country,
11 Colorado has one, and we're working hopefully to
12 broaden that into Wyoming, called Gunshop Projects.
13 And those focus on identifying gun dealers, gun
14 shops, FFLs, who are willing to temporarily take in
15 your firearms if there is a need. And that need
16 doesn't always have to be a mental health crisis,
17 but oftentimes, that's -- people are looking for a
18 place to put their firearms in times of a mental
19 health crisis.

20 So basically creating a network so that
21 we can work to help those gun owners who have mental
22 health struggles.

23 Q. You mentioned CLE. Are you referring
24 to Continuing Legal Education?

25 A. Correct.

1 Q. Who would be presenting those CLEs that
2 you mentioned?

3 A. We -- so that's George Mocsary, who is
4 a professor at the College of Law. That's kind of
5 his bailiwick. I know he's created a list of
6 potential panelists, but we don't have them
7 confirmed. But the hope would be to have an ATF
8 representative. Obviously, he'll be involved in it,
9 and some other lawyers within the interest of FFLs,
10 FFL storage.

11 Q. And is George also part of your -- of
12 the Firearms Research Center?

13 A. He's the director.

14 Q. Besides George and yourself, are there
15 any other members of the Center?

16 A. David Kopel is a Senior Fellow, and
17 then there's another person named Alexander -- I'm
18 spacing on his last name. I'm not a paid employee,
19 so -- I can't remember his last name. But Alexander
20 is also a Fellow with the Research Center. And we
21 are in the process of adding more fellows to our
22 roster, but we don't have those confirmed yet.

23 Q. Is Alexander also an attorney?

24 A. I'm not sure. I think he just got his
25 Ph.D.

1 Q. Are you listed with the law school
2 faculty at University of Wyoming College of Law?

3 A. I am not.

4 Q. Does the Center receive funding from
5 the Wyoming College of Law?

6 A. No.

7 Q. Does it receive any funding from the
8 State of Wyoming?

9 A. No.

10 Q. Does it receive funding from private
11 donations?

12 A. Yes.

13 Q. Have any of those private donations
14 come from firearms manufacturers or sellers?

15 A. Yes.

16 Q. How much has the Center received from
17 those sources to date?

18 A. Maybe over -- 200,000, maybe? I'd have
19 to pull the full numbers, but thinking of the bigger
20 gifts that we have gotten.

21 Q. Okay. Do you know approximately what
22 percentage of the overall donations that the Center
23 has received has come from firearms manufacturers or
24 sellers?

25 A. Percentage? Probably not. But as of

1 right now, it's probably the majority of the larger
2 donations. We -- initially, we were mostly
3 individual donor driven at lower levels, but we
4 recently got a string of larger donations. So I
5 would say probably most of the larger donations came
6 from firearms manufacturers.

7 And I'm currently trying to work
8 through the foundation. I obviously would like that
9 to be more balanced, and so we're looking at
10 Wyoming-based foundations. It's just the timing of
11 one person giving, and then another and another.

12 Q. Did the Center receive a donation from
13 Marty Daniel?

14 A. It did.

15 Q. Mr. Daniel is the founder and owner of
16 Daniel Defense. Is that correct?

17 A. That's correct.

18 Q. And Daniel Defense is a firearms
19 manufacturing company?

20 A. They are.

21 Q. And was the donation that the Center
22 received in the amount of \$82,500?

23 A. Yes.

24 Q. Daniel Defense is the maker of the
25 firearm that was used in the 2022 Uvalde, Texas

1 school shooting. Is that correct?

2 A. That is correct.

3 Q. Is it also correct that you provided
4 consultant and curator services to Daniel Defense in
5 2017?

6 A. I did. They wanted to build a museum
7 on their new property.

8 Q. Does the Firearms Research Center
9 advertise?

10 A. We have social media, but I'm not sure
11 if we've done any paid advertising.

12 Q. Do you know if the Center has ever been
13 advertised on any websites?

14 A. By advertising, do you mean -- how do
15 you mean "advertising"?

16 Q. Did you or someone else from the Center
17 publish any articles or promotional material for the
18 center on any website?

19 A. Yes.

20 Q. Okay. And what websites were those?

21 A. We wrote a blog a couple years ago,
22 maybe, for the United States Concealed Carry blog,
23 I'm not sure what it's called, about the formation
24 or the future formation of the Center.

25 I know that I did an interview for The

1 Reload, which is a podcast hosted by Steven
2 Gutowski, who is a firearms specialist as well a CNN
3 analyst in firearms. I'm sure there are other
4 places, but those are two that I've been involved
5 in.

6 Q. You mentioned U.S. Concealed Carry.
7 Are you referring to the U.S. Concealed Carry
8 Association?

9 A. Yes.

10 Q. And is that a guns rights organization?

11 A. I know they do insurance. I don't know
12 how they would identify themselves.

13 MR. SCHMUTTER: Objection, lack of
14 foundation and undefined.

15 Q. Are they advocates for gun ownership?

16 A. For gun ownership? They provide
17 insurance for it, so I guess so.

18 Q. And what is The Reload?

19 A. The Reload is a news source for
20 firearms information. I don't have a membership, so
21 I don't actually know too much about it.

22 Q. Do you know if that is -- if that site
23 is geared toward one side or the other of the gun
24 rights issue?

25 A. I honestly haven't really read any of

1 his articles; that probably makes me look bad. So
2 I'm not sure. I'm not sure. In a few conversations
3 I've had with him, he's pretty balanced and pretty
4 fair to both sides, so I don't know.

5 Q. You mentioned, I believe, including
6 yourself, there are four members of the Center
7 currently. Correct?

8 A. Yes.

9 Q. Has -- to your knowledge, have any of
10 those individuals or the Center itself, as an
11 entity, ever taken a public position on Second
12 Amendment litigation?

13 A. Yes.

14 Q. And can you explain what you mean by
15 that?

16 A. George Mocsary and David Kopel wrote a
17 case law review book on the Second Amendment.

18 Q. Okay. And what is that -- you said a
19 book? What is that book?

20 A. A case law book. And they've also
21 written a lot of amicus briefs.

22 Q. Do you know what cases those amicus
23 briefs were part of?

24 A. No.

25 Q. Do you know whether those amicus briefs

1 were cases that concerned challenges to laws based
2 on the Second Amendment?

3 A. I think.

4 Q. Do you know if those briefs were in
5 favor of the law or in opposition to the law?

6 A. I don't know all of them, but I believe
7 at least some of them are opposition. Yeah,
8 opposition. I just wanted to make sure I was not
9 getting confused.

10 Q. Can you think of any, or are you aware
11 of any, that were in support of the law?

12 A. I can't. Honestly, I haven't read
13 through their amicus briefs.

14 Q. Okay. You are married to Mark Hanish.
15 Is that correct?

16 A. I am.

17 Q. And like yourself, Mr. Hanish also
18 served as an expert witness in the Oregon Firearms
19 Federation Case. Is that correct?

20 A. He did.

21 Q. He also serves as a consultant on
22 firearms issues?

23 A. He's been an expert witness.

24 Q. Now, on the very first page of your
25 report, and again, this is Exhibit 1, it states that

1 you were the president of The Gun Code, LLC. Is
2 that correct?

3 A. That's correct.

4 Q. And The Gun Code provides consulting
5 services. Is that correct?

6 A. That's correct.

7 Q. And do you and Mr. Hanish work together
8 on The Gun Code?

9 A. I put his name on there, because at
10 some point, when he retires, he wants to do
11 consulting. But to be honest, it was my company in
12 Wyoming, and the consulting services that are being
13 offered are related to my work. But he is on there,
14 as we're married and it's a joint state.

15 Q. Right.

16 A. So it can still operate as a
17 single-member LLC.

18 Q. The Gun Code has a website. Is that
19 correct?

20 A. That is correct.

21 Q. Does the website feature Mr. Hanish, in
22 addition to yourself?

23 A. Yes, I added him a couple of years ago
24 as a Christmas present. Because he was looking at
25 getting involved in consulting, so I added him to

1 the website. Honestly, I don't think anyone has
2 ever hired me because of my website, so I didn't see
3 it as an issue to add him there.

4 Q. So is Mr. Hanish's service through
5 The Gun Code, has he provided any services through
6 The Gun Code?

7 A. I'm not sure if his expert testimony
8 was through him, because it's a single-member LLC,
9 so it was his name and his Social.

10 Q. Give me one second.

11 A. No worries.

12 Q. Is it correct that, on The Gun Code
13 website, it indicates that Mr. Hanish is available
14 for consulting on a range of industry topics from
15 product design to sales to marketing?

16 A. That is correct.

17 Q. When was The Gun Code formed?

18 A. I originally formed it as a
19 single-member LLC in Wyoming, oh, gosh, maybe like
20 2015, 2016. And then I closed that when I moved out
21 here. And when I moved out here, I made a new LLC
22 under the same name, but it has Mark listed with it
23 as well.

24 And I'd have to pull up the actual
25 date, but I moved here during COVID, so I'd imagine

1 it would probably be around 2020. And that website
2 is originally from Wyoming when I was consulting,
3 because the museum let me consult with other museums
4 and different projects, so the website started
5 there.

6 I kind of felt like I needed a website,
7 but like I said, I'm mostly word-of-mouth
8 consulting.

9 Q. Does the website accurately set forth
10 the types of services that The Gun Code would offer
11 as of today?

12 A. I haven't looked at in a while, but I
13 think so.

14 Q. Does that -- do the services that the
15 The Gun Code offers, as of today, include training
16 and workshops?

17 A. Yes.

18 Q. And what would be the subject areas
19 that it could provide training and workshops on?

20 A. That's strictly museum training and
21 workshops. So I do variations on firearms in museum
22 workshops, so they can be one day, two days, half
23 days. Or they're just included in the work I'm
24 already doing.

25 But it usually includes safe firearms

1 handling, so teaching people about how to properly
2 handle a firearm, so there's not an issue within
3 your collection. I usually provide a history of the
4 technology, and I tend to cater it toward whatever
5 the collection is. So if it's a collection that
6 focuses a lot in World War I, then we do a lot with
7 World War I; it just depends.

8 And then I provide a background on how
9 to identify important cataloguing information.
10 There's a set of things that you have to list within
11 any type of cataloguing data, and firearms, because
12 they're so technical, there's very specific things
13 that we list in the field. So I teach them about
14 looking at proof marks, roll stamping, patent dates,
15 any type of maker markings, and then how to measure
16 different parts of the firearm.

17 Depending on the level of expertise, I
18 mean, sometimes you can teach them how to check to
19 see if it's loaded or not, and how to identify it as
20 unloaded for safety procedures.

21 And then we go over a little bit about
22 the laws. It's certainly not comprehensive, but
23 unless a museum is a government museum, they are
24 bound by all state, local, federal firearms laws. A
25 lot of museums do not realize that. And so we kind

1 of go over some of the laws that could impact them,
2 so that they're aware of what they can collect, how
3 they can legally collect it, and what they can't
4 collect.

5 And then we do go over conversations of
6 interpretation; you know, how to write a label that
7 has firearms information, terminology that's
8 relevant to their museum. So it's kind of a -- it's
9 Guns and Museums 101, from safety to actual, you
10 know, logging the items.

11 Q. The website also indicates that both
12 you and Mr. Hanish can serve as expert witnesses on
13 cases involving firearms history and/or the modern
14 industry. Is that accurate?

15 A. That's correct. I mean, he can do
16 modern, I can do history.

17 Q. It also indicates that you are
18 available for lecturing and writing on a range of
19 topics, including perceptions of firearms in
20 culture, era-specific histories, firearms as
21 material culture, public education and museum
22 interpretation. Is that accurate as well?

23 A. That's accurate.

24 Q. And it also says that both you and
25 Mr. Hanish can provide research on individual or

1 collections of firearms, but not formal appraisals.

2 Is that accurate?

3 A. That is accurate.

4 Q. Are there any other services that we
5 have not gone over that The Gun Code currently would
6 be available to provide?

7 A. I mean, I'm open to anything that's
8 firearms and history related. So I don't know if
9 you had mentioned articles, writing articles, but
10 that was in our lecture section, I can't remember if
11 that's what you said. So writing articles.

12 I also -- I do a lot of television. I
13 write, produce, and appear on television shows. So
14 that's not on there, but I do provide that as a
15 service.

16 Q. What types of clients does the The Gun
17 Code serve?

18 A. Museum clients, individuals, and I
19 mean, law firms for the expert testimony.

20 Q. How much income has the The Gun Code
21 received for services performed?

22 A. Total?

23 Q. Yes.

24 A. I'm not sure.

25 Q. In the past three years, to narrow it

1 down, do you know how much income The Gun Code has
2 received?

3 A. Estimating, maybe 300,000 over three
4 years, give or take.

5 Q. You mentioned earlier that you had, in
6 preparation for this deposition, reviewed your
7 deposition testimony from the Oregon Firearms
8 Federation matter. Correct?

9 A. Correct.

10 Q. And that testimony was given in January
11 of 2023?

12 A. Yes.

13 Q. Is it accurate that, at that point in
14 time, Mr. Hanish owed -- owned \$600,000 -- or
15 600,000 shares in Ammo Incorporated?

16 A. That's correct; he got that through his
17 employment there.

18 Q. So he was previously employed with
19 Ammo, Inc.?

20 A. Correct.

21 Q. And Ammo, Inc. is a company that sells
22 ammunition, correct?

23 A. Correct.

24 Q. Did he still currently own shares in
25 Ammo, Inc.?

1 A. Yes, they didn't go away when he
2 stopped working there.

3 Q. And it's still the same number of
4 shares as in January of this year?

5 A. Yes. I know we just sold a few. So
6 yes.

7 Q. As his spouse, you, I believe testified
8 earlier about either shared or community property.
9 Correct?

10 A. Correct.

11 Q. So as his spouse, would his owned
12 shares in Ammo, Inc. be considered your property as
13 well as his?

14 A. Yes.

15 Q. Did Mr. Hanish also previously work for
16 Timney Triggers?

17 A. He did.

18 Q. Is that a company that manufactures
19 triggers for firearms?

20 A. It is.

21 Q. Is it accurate that Mr. Hanish has
22 worked for firearms manufacturers or sellers
23 throughout your marriage to him?

24 A. Yes.

25 Q. Is it fair to say that a substantial

1 amount of your household income comes from those
2 employers?

3 A. Yeah. I like to think I make money in
4 my own right.

5 Q. But is it fair to say that, including
6 that and all other household income, that a
7 substantial amount of that total income comes from
8 those sources?

9 MR. SCHMUTTER: Objection, undefined.

10 A. Yeah.

11 Q. Do you personally hold any other equity
12 interest or financial stake in a firearms
13 manufacturer or seller?

14 MR. SCHMUTTER: Objection, lack of
15 foundation and inconsistent with the record.

16 You can answer.

17 A. Oh, I don't know.

18 I don't think so.

19 Q. Other than what you already testified
20 to, does Mr. Hanish hold any other equity interest
21 or financial stake in a firearms manufacturer or
22 seller?

23 A. I don't think so.

24 Q. Other than what we've already covered
25 in this deposition, do you currently hold any other

1 positions of employment? Which would include any
2 fellowships, research positions, or consultant
3 positions?

4 A. We didn't go through every one of the
5 things on my CV. Do you want me to list them?

6 Q. Only if they are current, only if they
7 are positions that you currently, as of today, hold.

8 A. Okay. Let me pull my CV up, just so I
9 don't miss one.

10 So I'm a Senior Fellow at the
11 University of Wyoming College of Law's --

12 (Court Stenographer clarification.)

13 THE WITNESS: Sorry.

14 A. I'm a Senior Fellow, University of
15 Wyoming College of Law's Firearms Research Center.
16 And that is not a paid position, though. I'm the
17 consulting director at the -- I have it listed as
18 the Craig Boddington Wildlife and Firearms Museum;
19 they're now calling it the Sporting Heritage Center,
20 and that is an in-process project.

21 I am the consulting curator for the
22 Los Angeles Police Museum, and I am the guest
23 curator at the CM Russell Museum and Complex on a
24 Browning exhibition. And I think that's it.

25 Q. Are any of those positions that you

1 just listed paid, or offer compensation to you?

2 A. Yeah, other than the Senior Fellow
3 position, they're all compensated.

4 Q. Other than what we've already covered
5 during this deposition, including what you just
6 answered to, do you have any other sources of
7 income?

8 A. No, no. Not -- the only thing I was
9 trying to think of was TV, but no.

10 Q. Other than any compensation you
11 received for your services as an expert witness in
12 these matters, have you ever received money or other
13 compensation from any of the plaintiffs in these
14 cases?

15 A. You said, other than in this
16 circumstance?

17 Q. Other than anything you received for
18 your services as an expert witness, have any of the
19 plaintiffs ever provided you with any compensation?

20 A. No.

21 Q. And just so I'm clear on my question,
22 have you ever received money or other compensation
23 from the New Jersey Association of Rifle and Pistol
24 Clubs?

25 A. No.

1 Q. Did you ever receive money or other
2 compensation from any of its affiliate branches in
3 other states?

4 A. Maybe on Miller.

5 MR. SCHMUTTER: Objection, no
6 foundation.

7 Q. When you say "maybe Miller," are you
8 referring to the case, Miller versus Becerra?

9 MR. SCHMUTTER: Objection, lack of
10 foundation, objection.

11 A. Yes.

12 Q. The case Miller versus Becerra that you
13 cite to in your -- as having provided prior expert
14 report testimony?

15 MR. SCHMUTTER: Same objection.

16 A. Yes.

17 Q. When you say you received compensation,
18 are you talking about compensation you received as
19 an expert witness in that case?

20 A. I'm not sure.

21 MR. SCHMUTTER: Objection.

22 A. I'm not sure if they provided that
23 compensation. I can't remember. But yes, I'm
24 speaking about.

25 Q. Okay. Have you ever received money or

1 other compensation from The Firearms Policy
2 Coalition?

3 A. I have.

4 Q. According to your curriculum vitae, you
5 served as adjunct scholar of Firearms History,
6 Technology and Culture for the Firearms Policy
7 Coalition from 2020 to 2021. Is that correct?

8 A. That is correct.

9 Q. Were you on retainer with them during
10 that time period?

11 A. I was on retainer. I was basically
12 just there in case they had a history question, but
13 I don't think they asked me anything in that entire
14 year.

15 Q. And what did that retainer pay to you?

16 A. I think it was 5,000 a quarter.

17 Q. Did you receive any additional
18 compensation from them during that year?

19 A. I did. I received a thousand dollars a
20 month. They had wanted me to do a firearms history
21 video series; however, they never actually approved
22 anything. So I would periodically try to send them
23 content, but they never approved it, so the video
24 series never happened.

25 Q. So is it accurate, then, that between

1 the quarterly retainer of \$5,000 per quarter and
2 receiving \$1,000 per month for the video series,
3 that in that year, you received approximately
4 \$30,000 in total compensation from the Firearms
5 Policy Coalition?

6 A. Sounds right.

7 Q. Is it correct that you are a member of
8 the National Rifle Association?

9 A. Yep.

10 Q. Is it correct you have a life
11 membership with that organization?

12 A. Yeah, if I remember correctly, I paid
13 half price for a life membership, because I
14 worked -- it was complicated. Because with Cody,
15 you have memberships to different groups so that you
16 can work with at trade shows and that kind of thing.

17 So I would do work with the National
18 Firearms Museums, which are housed within the
19 National Rifle Association, so I joined for that
20 purpose. And then I also joined because I was
21 helping that museum as essentially a board member.
22 But that was the reason why I was a member.

23 Q. Have you ever been featured on an NRA
24 website?

25 A. I have.

1 Q. Have you ever attended any NRA
2 trainings?

3 A. Yes. When I first studying guns when I
4 was 18 -- I did not grow up around guns -- I took an
5 NRA First Steps class. Basically, you know, gun
6 safety, how to fire a handgun. And then when I was
7 at Cody -- it's in my CV, I can't recall the year --
8 I took Well-Armed Woman training, which also allowed
9 you to get certified as a firearms instructor
10 through the NRA, but it was run by a different
11 organization.

12 So I took those training
13 certifications. More for my own edification, I
14 never became a firearms instructor. I just wanted
15 to know more about that process. I think those were
16 the only trainings.

17 Q. Aside from the trainings, did you ever
18 attend any other events that were held by the NRA?

19 A. Yes, Cody displayed firearms at the
20 annual meeting. And also, the annual meeting that
21 they host every year has a very sizable collector --
22 they call it Collector's Row, section, which
23 represents all the different collectors' groups
24 around the country, sometimes up in Canada, and they
25 display their historic firearms. So I've always had

1 kind of an active role being over there.

2 Q. Have you ever received any awards from
3 the NRA?

4 A. I don't think so.

5 Q. Are you a member of any Second
6 Amendment advocacy groups?

7 A. Other than the NRA, no.

8 Q. Are you a member of any -- any firearms
9 advocacy groups, other than the NRA?

10 MR. SCHMUTTER: Objection, no
11 foundation, undefined.

12 A. I'm not sure how you are defining
13 "firearms advocacy."

14 Q. I'll move on.

15 I see from your curriculum vitae that
16 in 2022, you received the Second Amendment
17 Foundation's Defender of the Constitution Award. Is
18 that correct?

19 A. That's correct.

20 Q. What is the Second Amendment
21 Foundation?

22 A. It's an organization, I think it's a
23 nonprofit, that provides research scholarship. I
24 know they write amicus briefs and get involved in
25 litigation on the Second Amendment.

1 Q. Are they a gun rights organization?

2 MR. SCHMUTTER: Objection, lack of
3 foundation, undefined.

4 Q. Let me rephrase.

5 Do they advocate in favor of, you know,
6 expanded rights under the Second Amendment?

7 A. I think so, yeah.

8 Q. Are you a member of that organization?

9 A. I'm not.

10 Q. What did the Second Amendment
11 Foundation's Defender of the Constitution Award
12 recognize?

13 A. I wasn't paying that close attention to
14 the intro. The reason that I understand why I got
15 the award was because of my historical research, and
16 my ability to work across different lines in terms
17 of public education, and my work as seeing history
18 as a unifier within a very tumultuous debate.

19 Q. Your curriculum vitae also indicates
20 that in 2017, you received the Shooting Sports
21 Communicator of the Year Award from the National
22 Shooting Sports Foundation and Professional Outdoor
23 Media Association. Is that correct?

24 A. That's correct.

25 Q. What does this award recognize?

1 A. This award is based off of -- it's
2 actually the Grits Gresham Shooting Sports
3 Communicator of the Year Award.

4 Grits Gresham was an outdoor media
5 figure who crossed boundaries, not just in outdoor
6 media, but was involved in more ESPN, more
7 mainstream media as well. So I received the award
8 because, again, of my willingness to communicate
9 with -- inside the gun community, but then also
10 outside of the gun community, and doing so without
11 judgment of either side.

12 Q. Your curriculum vitae also indicates
13 that you received another award from the National
14 Shooting Sports Foundation in 2020 called the
15 "SHOT," S-H-O-T, all caps, Businesses Top 40 Under
16 40. Is that correct?

17 A. I don't know if that's an award. But
18 it's just a "40 Under 40" list.

19 Q. Well, would you say it was a -- if not
20 an award, then an honor that you were recognized
21 with?

22 A. Yeah.

23 Q. Okay. Do you know why you received
24 that honor?

25 A. I believe it was for my work in the

1 history field, and that was 2020, so that was coming
2 off of the reopening of The Cody Firearms Museum. I
3 imagine it had to do with that project.

4 Q. And in 2022, according to your
5 curriculum vitae, you were recognized by the
6 National Shooting Sports Foundation and the Women's
7 Outdoor Media Association as a top five finalist for
8 Top Woman of the Gun Industry. Is that correct?

9 A. That is correct.

10 Q. And what did this award or honor
11 recognize?

12 A. That was the first time they did that
13 one; I don't think they've done it since. I think
14 it was just women in the -- that either compete with
15 firearms -- the person that won the award was a
16 professional shooter; women who write in the outdoor
17 industry. For me, it was history.

18 And that specific year was also -- oh,
19 no, I thought that specific year was suicide
20 prevention advocacy, but that wasn't; that was 2023.

21 So it was just women across a lot of
22 different avenues of the firearms world; so from
23 shooters to safety advocates to writers. It was
24 kind of a wide swath of people.

25 Q. The National Shooting Sports Foundation

1 is a trade association for the firearms industry.

2 Is that correct?

3 A. That's correct. But they also do a lot
4 with firearms safety. They do a lot with suicide
5 prevention. They do a lot with reducing accidents
6 with firearms by providing gun locks, range safety.

7 So they have their trade kind of role,
8 but they also have a lot of good educational
9 components that also they're involved in.

10 Q. Do you personally own any firearms?

11 A. I do.

12 Q. How many firearms do you own?

13 MR. SCHMUTTER: Objection. Not --
14 relevance.

15 Dan, is there a ground for this
16 question?

17 MR. VANNELLA: Yes.

18 MR. SCHMUTTER: What's the basis?

19 MR. VANNELLA: Well, are you giving a
20 speaking objection now?

21 MR. SCHMUTTER: No, I'm deciding
22 whether I'm going to apply for a protective order.
23 I mean, someone's personal firearms ownership is
24 sensitive information. It could make them a subject
25 of theft, all kind of things. So I guess my

1 question -- I'm asking why you're asking the
2 question.

3 MR. VANNELLA: All right.

4 BY MR. VANNELLA:

5 Q. Well, let me ask you this,
6 Ms. Hlebinsky. You are a firearms owner. Correct?

7 A. Correct.

8 Q. Is your perspective on firearms shaped
9 at all by the fact that you yourself are a firearms
10 owner?

11 MR. SCHMUTTER: Objection, undefined,
12 lack of foundation, ambiguous.

13 Q. You can answer.

14 A. Oh, okay. Sorry. My -- sorry. The
15 question one more time? The back-and-forth
16 distracted me.

17 MR. VANNELLA: Can you repeat the
18 question, Court Reporter?

19 (Testimony read back.)

20 A. In terms of, I think that the access
21 and the ability to handle and fire firearms is
22 imperative to my field of study. And I do own
23 antique firearms as well, and so I think that that
24 provides me with a unique perspective.

25 I don't carry. So it doesn't -- you

1 know, the fact that I own firearms doesn't
2 necessarily impact my opinion, but provides me with
3 a better perspective on the operation of the
4 technology, what's available, if that makes sense.

5 MR. SCHMUTTER: Just in case, just for
6 the record, in case -- I don't know, Dan, if you
7 could go back to the previous question that I
8 objected to. I'm going to add in an objection based
9 on a right to confidentiality. I don't know if you
10 are going to go back to it, but I want it on the
11 record.

12 MR. VANNELLA: I'm not going back to
13 it, but your objection is noted for the record.

14 Q. I am going to ask, Ms. Hlebinsky, do
15 you personally own any magazines that carry more
16 than ten rounds?

17 A. Yes.

18 Q. Okay. And again, is your perspective
19 on the capacity of magazines shaped at all by the
20 fact that you personally own magazines that carry
21 more than ten rounds of ammunition?

22 MR. SCHMUTTER: Objection --

23 A. No.

24 MR. SCHMUTTER: Let me state the
25 objection.

1 Ambiguous, undefined, lack of
2 foundation.

3 You can answer.

4 BY MR. VANNELLA:

5 A. Oh. No, especially the fact that I
6 couldn't even remember if I did. I had to think
7 through that.

8 Q. Do you consider yourself to be a part
9 of the gun community?

10 MR. SCHMUTTER: Objection, lack of
11 foundation, undefined.

12 A. There's so much nuance to that
13 statement, so can you clarify how you're perceiving
14 that term?

15 Q. You're offering expert opinions on
16 New Jersey's -- on certain of New Jersey's laws
17 concerning regulation of assault firearms, and what
18 New Jersey defines as large-capacity magazines. Is
19 that correct?

20 A. Correct.

21 Q. Do you personally agree or disagree
22 with the laws that are being challenged in these
23 lawsuits?

24 MR. SCHMUTTER: Objection. She's here
25 to offer expert testimony, not her personal

1 opinions.

2 You can answer.

3 THE WITNESS: Okay.

4 A. I basically -- I haven't studied all
5 facets of the laws, the nuance of the laws, I
6 haven't studied the criminology statistics, the
7 defense statistics on that. So all I can really say
8 is my understanding of the history, as it applies to
9 the Bruen case, and what I was hired to do.

10 Q. So you have no personal opinions, one
11 way or the other, regarding laws that limit the
12 capacity of magazines?

13 MR. SCHMUTTER: Objection, lack of
14 foundation. Mischaracterizes the record, undefined
15 and ambiguous.

16 A. Which laws are you specifically
17 speaking about?

18 Q. Any laws.

19 A. I'm sorry, what?

20 Q. Any laws?

21 MR. SCHMUTTER: Same objection, no
22 foundation, ambiguous, undefined.

23 A. I'm just trying to -- I mean "any laws"
24 is such a broad question that there's -- I'm not
25 really sure how you would want me to answer that,

1 without having a very specific kind of scope.

2 Because in general, my answers are based on my
3 historical expertise.

4 Q. Okay. And do you have any personal
5 views, one way or the other, on a law that restricts
6 assault firearm ownership?

7 MR. SCHMUTTER: Objection, no
8 foundation, undefined, ambiguous.

9 Q. Amongst private civilians?

10 MR. SCHMUTTER: Same objections.

11 A. My answer is the same for all of that,
12 which is that I try to keep myself to only kind of
13 focusing on what I've been hired to do, so that I
14 don't get clouded by the -- kind of all the other
15 arguments that are being made. So my opinion is
16 always informed by my historical analysis.

17 MR. VANNELLA: Can we go off the
18 record.

19 MR. SCHMUTTER: Sure.

20 (A luncheon recess takes place.)

21 CONTINUED EXAMINATION BY MR. VANNELLA:

22 Q. We're back on the record following a
23 lunch break. Ms. Hlebinsky, during the lunch break,
24 have you spoken with anyone regarding the substance
25 of your deposition testimony today?

1 A. Nope.

2 Q. Thank you. So I want to go back to
3 your report, which is Exhibit 1 for purposes of this
4 deposition.

5 When were you first contacted on
6 potentially serving as an expert witness in these
7 matters?

8 A. On this particular case?

9 Q. Yes.

10 A. May, maybe? I think May.

11 Q. May of '23?

12 A. 2023.

13 Q. The opinions that you are offering in
14 this report, when did you form the opinions?

15 A. The over-arching opinions, I've had for
16 many years.

17 Q. How long did it take you to prepare
18 this report?

19 A. Do you mean hours?

20 Q. Yes.

21 A. Oh, gosh, I don't remember. I know I
22 had basically a month to do it. But I can't -- I
23 would have to look at the invoice, I'm sorry.

24 Q. Okay. What did you review in
25 preparation of this report?

1 A. I reviewed past reports that I've
2 written. Anything that's in my footnotes. I've
3 been -- I was at Cody, so I was going through the
4 collections a little bit more. I happened to be
5 having a trip in the middle of writing this, so I
6 was looking at the Cody collection, and I talked to
7 a few other museums about collections that they had.
8 I'd already been doing that, so it just,
9 timing-wise, kind of all came together and benefited
10 what I was working on.

11 Q. Are there any materials that you would
12 have liked to review, which you are not able to
13 review for this report?

14 A. I'm sure there's also some things you'd
15 like to review that you're not able to. The one
16 thing that I'm currently working on outside of these
17 cases specifically is, I'm trying to get a grasp of
18 the breadth and depth of early firearms in private
19 collections and public museums in the country.

20 So that's something that I'm working on
21 in my free time. So obviously, I'd love to have
22 that answer, but that's time-consuming, so.

23 Q. How might that have affected the
24 statements and conclusions that you do offer in this
25 report?

1 MR. SCHMUTTER: Objection, calls for
2 speculation.

3 A. I mean, you never -- you never can know
4 if anything will alter. But I don't think -- the
5 bulk of the points about the interconnectivity of
6 civilian and military arms wouldn't change, I don't
7 believe.

8 The existence of repeaters doesn't
9 change, no matter how many I find, and the number
10 and quantity I find.

11 So the overarching kind of linchpins
12 that I look at in terms of the history of technology
13 and the history of repeaters; you know, that theme
14 is still there. I'm just trying to really dig into
15 the breadth of it.

16 Q. Turning now to page 6 of your report,
17 I'm going to direct your attention to the second
18 paragraph?

19 A. Okay.

20 Q. Three sentences in, I'm going to -- let
21 me know when you get there.

22 A. Three sentences. Okay.

23 Q. So in that sentence, you use the term
24 "assault weapons." Is that correct?

25 A. In quotations, yes.

1 Q. And in the parenthetical immediately
2 following that term, you state, quote, "(roughly
3 equivalent to the New Jersey legislative term
4 'assault rifle.')" Is that correct?

5 A. No --

6 MR. SCHMUTTER: Objection, that's not
7 what it says.

8 THE WITNESS: Sorry.

9 A. No, it says, quote, "assault firearms,"
10 end quote.

11 Q. I'm sorry, I thought I said assault
12 firearm. But yes, "Roughly equivalent to the
13 New Jersey legislative term 'assault firearm'."
14 Correct?

15 A. Correct.

16 Q. So when you use the term "assault
17 weapon" in this report, is your meaning of that then
18 limited to "assault firearm," as that term is
19 defined under New Jersey law?

20 A. I believe I have an overarching kind of
21 umbrella term for -- I didn't mean to -- sorry, I
22 didn't mean to use quotes in that. But an umbrella
23 term for assault weapons. And then I look at
24 features that are within the New Jersey statute.

25 Q. What does the umbrella -- what does

1 your umbrella term "assault weapon" mean, then?

2 A. If you want, I have it on page 13. I
3 think it's the second sentence, after the comma.

4 "I will be using the term assault
5 weapon," with the parenthetical, "based on an
6 overarching theme among various federal and state
7 laws, as a legislative catchall term that has
8 differing definitions dependent of proposed
9 legislation that typically center around features of
10 certain semiautomatic firearms," end quote.

11 I apologize. That was terribly read.

12 So, in general, with an umbrella term
13 with assault weapons, it's so different in different
14 states. But typically, it centers around features
15 of a semiautomatic center-fire gun. Although there
16 are states that also -- I believe California limits
17 rim fire as well. So there are exceptions to that
18 rule, and that's why I try to keep it pretty broad.

19 But the recurring theme with that
20 are -- the semiautomatic actual technology, and then
21 the features. There's a lot of crossover, but not
22 always.

23 Q. Well, on this page, you again reference
24 the, quote, "New Jersey legislative term assault
25 firearm." Is that correct?

1 A. That is correct.

2 Q. Have you reviewed any New Jersey
3 legislation that defines the term "assault firearm"?

4 A. I believe so, back when I was first
5 contacted.

6 Q. Can you specify what you reviewed?

7 A. I don't remember. I just believe that
8 I read the description of that.

9 Q. Other than those, did you review any
10 other New Jersey laws in preparation of this report?

11 A. I did not.

12 Q. In the course of preparing this report,
13 or your testimony today, have you conducted any
14 tests or experiments?

15 A. How do you define "tests or
16 experiments"?

17 Q. Any scientific test or experiments?

18 A. No.

19 Q. Do you plan on doing so in this matter?

20 A. Nope.

21 Q. Have you prepared any exhibits or other
22 demonstrative evidence for your testimony today in
23 this matter?

24 A. Are you referring to the exhibits that
25 are included the exhibit -- in Exhibit 1 already?

1 Q. Aside from anything that is included in
2 your report, including the exhibits that you attach
3 at the end, are there any other exhibits or
4 demonstrative evidence that you prepared for your
5 testimony today?

6 A. No.

7 Q. Do you plan on preparing any additional
8 exhibits or demonstrative evidence for any future
9 testimony in this matter?

10 A. I don't know.

11 Q. For the purposes of this report, what
12 specific subject areas are you holding yourself out
13 as an expert?

14 MR. SCHMUTTER: Objection to the extent
15 it calls for a legal conclusion.

16 A. I was hired -- I don't like to
17 personally use the term "expert," just because
18 that's, again, the Court's decision. But I was
19 hired specifically to write a report of, kind of an
20 overview of the history of firearms technology;
21 specifically repeaters, specifically features that
22 appear in the, quote/unquote, "assault weapon" or
23 "assault firearm" designation.

24 And then provide any conclusions on the
25 interconnectivity between guns owned by civilians

1 versus guns owned by the military, and that
2 additional interplay between the two.

3 Q. You mentioned history of firearms
4 technology. Correct?

5 A. Correct.

6 Q. What opinions are you offering as to
7 that subject area in this report?

8 MR. SCHMUTTER: Objection. The report
9 speaks for itself.

10 Q. What opinions are you offering -- would
11 you be prepared to offer in your testimony today?

12 MR. SCHMUTTER: Objection, ambiguous,
13 and the report speaks for itself.

14 Q. What opinions are in your -- what
15 statements or conclusions in your report,
16 Ms. Hlebinsky, do you consider to be your opinions?

17 MR. SCHMUTTER: Objection, the report
18 speaks for itself.

19 Q. You can answer that question.

20 A. Okay. I apologize. I was pulling up
21 the scope of work.

22 But one of the important themes within
23 my report deals with the interconnectivity of
24 civilian and military firearms. So how firearms
25 have evolved, from hand cannons to matchlocks to

1 wheel-locks, all of that. But then also who were
2 using them, and why they were using them, and how
3 they were being employed.

4 Basically that this hasn't been a
5 question of one side had superior firearms or the
6 other, and what purposes those firearms should be
7 used. So that interconnectivity.

8 The other is to provide an origin and a
9 history of repeaters and features, to showcase that
10 the evolution of firearms technology is kind of this
11 incremental kind of development of things that we
12 consider modern, potentially, but actually date back
13 centuries. So repeating technology is one of those,
14 and how that evolves over time.

15 And then the final conclusion kind of
16 looks at who was aware of these certain
17 technologies, and how they were made.

18 Q. I want to direct your attention to
19 page 10 of your report.

20 A. Okay.

21 Q. And on this page, you include a section
22 that's titled "Methodology." Is that correct?

23 A. That is correct.

24 Q. When you use the term "methodology,"
25 what do you mean by that?

1 A. I just wanted to provide a brief
2 explanation into the complicated nature of the study
3 of firearms. The study of firearms is -- it's
4 different than other disciplines in some respects,
5 because you have -- people who are considered
6 authorities a lot of times in the firearms field are
7 people that are researchers. They don't necessarily
8 have either the traditional university track. A lot
9 of times, they're collectors, and historically
10 speaking, curators used to make museums by and for
11 the collector.

12 So some of the best books that we have
13 on the history of firearms, the history of
14 individual firearms, individual action types,
15 individual makers, have been written by collectors,
16 private researchers.

17 A good example of a book that you often
18 see -- or books you often see are by Herbert Houze,
19 who is considered a historian, but he has a master's
20 degree. He was the curator of Cody, but he's
21 published regularly, and had been published
22 regularly during his lifetime, and is often cited in
23 expert reports on both sides.

24 And so -- but he doesn't have that
25 traditional Ph.D. degree, but everyone understood

1 that his research and his background allowed him to
2 be a historian and to be an authority, despite the
3 name of the press, or the degree that he held.

4 So there's this complicated nature.
5 And then adding onto it, there are researchers today
6 who are completely absent of the university
7 structure, that are doing some of the most
8 groundbreaking primary source research that's out
9 there.

10 And so in that respect, you have to
11 kind of consider the fact that the way that guns,
12 gun researching and history has been done for
13 centuries isn't necessarily in alignment with the
14 perception of how other histories have been kind of
15 interpreted.

16 On the other side of that, you get your
17 academic history, or your university-based
18 professors and historians. And some of them do
19 great work, but the issue within that structure
20 is that -- the way I always phrase it is -- how can
21 you have peer review when you have limited peers?

22 So there's an example of a book called
23 "Arming America" that I believe was a dissertation
24 that turned into a book. And that book won awards
25 and went through the peer-review process, and then

1 it was determined that his footnotes were not
2 necessarily accurate, and the awards were rescinded
3 and his reputation was sullied from that. But
4 following the peer review system, that theoretically
5 shouldn't have happened.

6 But without people who are specifically
7 knowledgeable in firearms, when studying something
8 like that, they won't necessarily catch those
9 issues. So it's a delicate balance between peer
10 review with limited peers, and a, you know, body
11 of -- and culture of researchers that don't
12 necessarily fit the mold, and having to understand
13 and respect kind of all of that.

14 Q. Is there a difference, then, between
15 methodology for the history of firearms or firearms
16 technology, and history in general?

17 A. I would say so. I mean history in
18 general just being your traditional track, that's
19 not necessarily firearms. But, yeah, the firearms
20 history world is a lot -- it's a lot different.

21 Q. How did you verify the sources that you
22 cite to in your report?

23 A. I was just taking a quick look through
24 the footnotes to make sure I had the breadth of all
25 of that.

1 But it's a combination of people that
2 are established and known in the field. I've been
3 working in the field for, you know, almost 15 years
4 at this point, and I founded an annual symposium
5 series that gathered these authorities together
6 every year. So it's a smaller community that we're
7 very aware of.

8 And so it's just a combination of that
9 experience, working with many different scholars
10 from around the world, sources are regularly used by
11 traditional university historians and others. But
12 it's a combination.

13 Q. Are you offering conclusions or
14 opinions on whether particular firearms existed at a
15 specific point in time in history?

16 A. Am I offering a conclusion -- let me
17 just make sure I'm understanding you correctly. Am
18 I offering conclusions on when things existed at a
19 particular point in history?

20 Q. Yes. Specifically, you know, specific
21 firearms or -- or accoutrements or ammunition?

22 A. Yes, for certain -- for certain
23 firearms.

24 Q. If I use the word "prevalent," what
25 does that word mean to you?

1 A. I'm sorry, what did you just say?

2 Q. Prevalent?

3 MR. SCHMUTTER: Objection.

4 A. I don't know.

5 MR. SCHMUTTER: Not clear, undefined.

6 Q. Would you agree there's a difference
7 between whether something existed at a particular
8 point in time, and how many of those items existed
9 at that point in time?

10 A. Oh, "prevalent," sorry. It took me a
11 second.

12 Q. Maybe I pronounced it wrong.
13 You can answer the question that I just
14 posed to you, if you can.

15 A. Okay, sorry about that.
16 Well, my research focuses more on the
17 appearance of it, and kind of how different
18 technologies existed and where they popped up. I
19 don't necessarily address prevalence in my report.

20 Q. So would you agree, then, that whether
21 something did exist at a particular point in time
22 does not in itself answer how prevalent it was at
23 that point in time?

24 A. Correct.

25 Q. Are you offering opinions as to whether

1 particular firearms existed throughout history?

2 A. I am.

3 Q. Are you offering opinions as to what
4 types of magazines existed throughout history?

5 A. I am.

6 Q. Are you offering any opinions at all as
7 to how prevalent certain types of firearms were
8 throughout history?

9 A. This particular report doesn't
10 necessarily look at extensive production runs of
11 certain models, but for the purposes of this report,
12 prevalence isn't necessarily the most important
13 thing. Because when you think about production at
14 the Founding era, your idea of manufacturing or
15 making firearms and how many is prevalent is
16 completely different.

17 So it's a very subjective thing. And
18 when you look at especially civilian-made firearms,
19 which a lot of the repeaters were, for a multitude
20 of reasons, you're looking at individual commissions
21 or you're looking at small runs that a maker is
22 making. Because, you know, it's private sale, not a
23 giant military contract order.

24 So to me, the prevalence is not
25 necessarily relevant to the conclusions that I'm

1 making.

2 Q. And to finish that thought, are you
3 offering any opinions as to how prevalent certain
4 types of magazines were throughout history?

5 A. I offer a history of magazines, and
6 their kind of centuries-old existence, and the fact
7 that the technology was available and something that
8 other gun makers continued to modify over the years.

9 But not specific prevalence, especially
10 because most of my report doesn't look too far into
11 what we would start to consider modern production
12 runs and production numbers.

13 Q. Are you offering any opinions in this
14 report on what laws concerning firearms existed at
15 different points in time in history?

16 A. I'm not.

17 Q. Are you offering any opinions in this
18 report on what laws concerning magazines or
19 ammunition existed at different points in history?

20 A. I'm not.

21 Q. In general, and not necessarily limited
22 to your work as an expert witness in these two cases
23 today, have you focused on any particular historical
24 periods in your research on firearms technology and
25 the history of firearms technology?

1 A. Yes and no. I've been fortunate to
2 work in encyclopedic collections for pretty much my
3 whole career; "encyclopedic" meaning thousands of
4 firearms representing a little bit of everything
5 during all of firearms history. So the Smithsonian
6 National Firearms Collection being the first, Cody
7 as well.

8 And then also, because of my connection
9 with Cody, being able to be inside the National
10 Firearms Museum, The Institute of Military
11 Technology, the Dutch National Military Museum --

12 (Court Stenographer clarification.)

13 THE WITNESS: Oh, I'm sorry. My gosh.

14 A. And the Royal -- and the Royal
15 Armouries, with a U. "Armouries" with a U.

16 And so I've had the opportunity to work
17 in those collections. And so as a result, I take a
18 much more kind of macro approach to understanding
19 the history of firearms technology, understanding
20 how they evolved, what was available, and how that
21 impacts culture, industry, and society; although I
22 have focused on different areas for different
23 exhibitions and research opportunities.

24 For example, we spoke about earlier,
25 the Colt-type single action and Rugers variation of

1 it in the 1950s. So I've looked at Colt revolvers,
2 single-action revolvers in general, passive and
3 active safeties. I've looked a lot at obviously
4 Winchester history, as the Cody Firearms Museum used
5 to be The Winchester Arms Museum. So it just kind
6 of depends on whatever we're focusing on.

7 But I've been really grateful that I've
8 been able to work in such a big collection, because
9 you get a much more grand understanding of how
10 things evolved across everything, and not just such
11 a small -- not just looking at such a small point in
12 time that you can't necessarily see the context.

13 Q. In your report, you discuss, at various
14 points, the term "repeaters." Is that correct?

15 A. That is correct.

16 Q. And actually, I'll ask you to turn to
17 page 22 of your report.

18 A. I am there.

19 Q. Second paragraph down, last sentence
20 you state, and I quote, "I define a repeater as a
21 firearm of any type that can fire multiple rounds
22 before having to manually reload," end quote.

23 Is that correct?

24 A. That is correct.

25 Q. Do you know the year in which the

1 Second Amendment was ratified?

2 A. 1791.

3 Q. Are you aware of any repeater with at
4 least a ten-round capacity that existed in the
5 United States in 1791 or earlier?

6 A. Well, two things. One, I think it's
7 important to acknowledge the other statement in that
8 same section of my report, which is the fact that I
9 do believe the cutoff of ten rounds is relatively
10 historically arbitrary, especially for the Founding
11 era.

12 Because you'll see repeating firearms
13 that are four shots on -- on -- let's see. And this
14 is going to go beyond just the United States, but I
15 mean 1580, a 16-shot firearm, a nine-shot, a
16 22-shot. It's -- without the standardization in
17 manufacturing, the number of rounds -- it's odd to
18 see that ten rounds or less is the way you should be
19 arguing that.

20 Because it's not a consistent
21 production schedule, it's not a consistent kind of
22 plan for the exact same type of firearm. So it's
23 kind of all over the place, the number of rounds.
24 But I do have listed in here the advertised 22-shot
25 repeater. I also have examples of other earlier

1 repeaters overseas that existed. But in general,
2 repeaters were available in the Colonies, and in
3 early America.

4 Q. So first of all, when I said United
5 States, I did mean for that to include the Colonial
6 period as well, but I think you understood that?

7 A. I did.

8 Q. Okay. And just so I understand your
9 answer to the prior question, were there any
10 repeaters in the United States in 1791 or earlier
11 that had at least a ten-round capacity?

12 A. I believe so. I have one listed in my
13 report.

14 Q. And what was that one?

15 A. That one is -- well, there's a couple.
16 But the one I'm specifically referencing is the
17 bottom of page 23 into 24.

18 Also in my report referencing the
19 demonstration for Belton is one that could discharge
20 16 balls. He moved to the eight, but 16 balls
21 initially, that was then requested to be reduced
22 when produced, and that's 24 as well. The Girardoni
23 as well has more than ten rounds.

24 Q. Okay. Let's start with the bottom of
25 page 23, when you say -- you list repeaters that had

1 ten rounds of ammunition or higher, without having
2 to reload. Are you referring to the Pim, the
3 John Pim firearm?

4 A. I am. And let me -- I'm not sure if
5 you had mentioned magazines specifically or
6 repeater. I can't recall. So some of these are --
7 have different -- are superposed, some of these are
8 different mechanisms to be a repeater, so I'm not --
9 I can't recall. So I apologize for that.

10 Q. Well, were there any -- any of these
11 firearms mentioned on page 23 and 24 that were
12 available or existed in the United States in 1791 or
13 earlier, or any of these -- do -- did any of these
14 come -- did any of these include magazines, or were
15 magazines available that held more than ten bullets,
16 or are these just firearms that you could load ten
17 or more bullets into?

18 MR. SCHMUTTER: Objection, compound
19 question, circuitous, confusing, ambiguous.

20 Q. Do you understand my question?

21 A. No, actually.

22 Q. Well, you mentioned -- you brought up
23 that you weren't sure whether we were asking about
24 magazines or not. What do you mean when you say
25 that?

1 A. I just couldn't recall if you had asked
2 specifically about repeating firearms, which
3 repeating firearms can include magazines, it can
4 include superposed, it can include multiple barrels,
5 it can include a revolving cylinder.

6 Or if you were referring to magazines
7 specifically, that was my -- I may have spoken too
8 quickly after you, because I didn't recall what you
9 had said.

10 Q. Are you saying that -- in 1791 or
11 earlier, were there stand-alone magazines, separate
12 and apart from the firearm?

13 A. How do you mean, "stand-alone"?

14 Q. I'm trying to understand your answer,
15 where you suggest there's a distinction between a
16 repeater and a magazine, or at least in some cases.
17 Like, what do you mean when you suggest there's a
18 difference?

19 A. Okay.

20 MR. SCHMUTTER: Object to form.

21 A. So a repeater, in my -- in my report, a
22 repeater, I'm just meaning as -- and you had me read
23 that definition as well on page 22 -- can fire
24 multiple rounds before having to manually reload.

25 So historically, and even today, there

1 are different ways that you can do that. So I list
2 in my report you have the earliest and most
3 convenient way was, in terms of early technology,
4 was to just layer barrels. So instead of it being
5 one barrel with a bunch of rounds in that one
6 barrel, you would have two barrels; a
7 double-barreled gun. Or you'd have three or four.

8 And so there were firearms that would
9 have individual long barrels, and you would load all
10 of that and then you could fire them one at a time
11 or all together; it depended on the gun. So that's
12 a repeater, but does not have a magazine.

13 Another way you can get a repeater --
14 like the Belton is a good example -- that doesn't
15 have a magazine, it's got -- well, one of the later
16 Beltons actually has a removable piece. But the
17 Belton is superposed, so you can actually load the
18 powder and projectile on top of one another.

19 The earlier Beltons actually were able
20 to ignite through the -- the actual projectile had a
21 hollow piece in it. And so it lit like a Roman
22 candle, so once -- and the Beltons had different
23 variations, so I'm massively simplifying it. But a
24 Roman candle, so you fire it and then they all go
25 off.

1 There are other variations on
2 superposed, where you actually move a piece as
3 you're doing it. So that's another example of a
4 repeater that can have more or less than ten rounds
5 that's not a magazine.

6 And then the other example of -- and
7 while we associate revolvers with the 1800s, there
8 were revolving mechanisms prior to that. And so
9 sometimes you'll hear the revolver -- or most times,
10 you'll hear a revolver's repeating housing as being
11 the cylinder, not a magazine. Does that clarify?

12 Q. I think so. So I will then ask you:
13 Any of those types of firearms that you just
14 mentioned, did any of those exist in the United
15 States since 1791 or earlier?

16 MR. SCHMUTTER: Objection, asked and
17 answered.

18 MR. VANNELLA: I don't think she has.

19 Q. Please answer my question.

20 A. If you look on page 24, middle of the
21 page, after that big block quote, I do reference
22 John Cookson. And there is a advertisement that I
23 have as an exhibit, and that's for the nine-shot
24 repeater, and that was a Boston Gazette
25 advertisement in 1756.

1 But then there's another one which is a
2 piece, an artifact that's I believe still in the
3 National Firearms Museum that was a 12-shot
4 repeater. And those were based on the Lorenzoni
5 kind of model, which I have earlier in my report,
6 and that is a magazine firearm.

7 Q. Are those the only two?

8 MR. SCHMUTTER: Objection,
9 mischaracterizes the record.

10 A. Not necessarily. Those are the two I
11 list.

12 Q. Okay. So you just mentioned the
13 Lorenzoni repeater?

14 A. I did.

15 Q. What was the mechanism that enabled
16 that weapon to hold more than one shot, without
17 having to be manually reloaded each time?

18 A. It's generally considered to have had a
19 magazine. And I believe it actually had a separate
20 vessel -- some of them did. When you see
21 "Lorenzoni," it's really Lorenzoni style.

22 So I mentioned earlier how it's
23 difficult without consistent production scheduling.
24 So people had variations on the same design, so the
25 operation isn't always exactly the same.

1 I want to say one of the earlier ones
2 was repeated for centuries. So when I say this, I'm
3 giving you a general, because some of them operate a
4 little bit different.

5 But the Lorenzoni style was to have
6 kind of its own magazine, its own compartment within
7 the firearm, which was integral to the firearm, and
8 a lever that you would turn in order to load the
9 firearm. And then I believe it used kind of gravity
10 to kind of continue to put powder, projectile, and
11 fire. But you put it all into a magazine before you
12 started the firing process.

13 Q. So then is it correct that after firing
14 one bullet through that weapon, you mentioned a
15 lever, a lever would have to be pulled in order to
16 allow the next bullet to be fired?

17 A. I don't think so. It's been a while
18 since I've seen it fire. I think the lever was more
19 for the loading process, but I could be wrong.

20 Although that's also not uncommon for
21 repeating firearms. I mean, look at a single-action
22 revolver. You have to -- it's got a cylinder that
23 can contain X number of rounds, and you have to
24 manually work the hammer before you press the
25 trigger.

1 So, you know, having to do something
2 manual doesn't necessarily negate its repeating
3 function.

4 Q. Did the Lorenzoni model repeater hold
5 more than ten rounds?

6 A. I believe there were examples that did.
7 It was replicated so many times, and they're not
8 always consistent. I think the standard, because it
9 was a lot of times pistols was under, but they made
10 long guns as well.

11 Q. Do you know how many of the Lorenzoni
12 repeaters were ever sold in the United States?

13 A. I don't.

14 Q. To the best of your knowledge, is it
15 possible that this repeater was a one-off example?

16 MR. SCHMUTTER: Objection, lack of
17 foundation and undefined.

18 A. Are you referring to Lorenzoni?

19 Q. Yes.

20 MR. SCHMUTTER: And calls for
21 speculation.

22 A. The Lorenzoni style was replicated all
23 over the world. So no, that wasn't a one-off.

24 Q. Do you know how many were replicated
25 all over the world?

1 A. I don't.

2 Q. On page 24 of your report, you
3 previously mentioned Cookson model firearms. Is
4 that correct?

5 A. That is correct.

6 Q. And in the report, the Cookson firearm
7 that you're referring to was specifically a
8 nine-shot repeater. Is that correct?

9 A. There is the one made by John Cookson
10 in that report, that references the nine-shot. And
11 then there is one similar to what I said with
12 Lorenzoni type, or Lorenzoni style: A Cookson-type.
13 So a similar remade firearm, and that one was a
14 12-shot.

15 Q. And you refer to that on this page as
16 well. Correct?

17 A. I do. I believe it's the next
18 sentence.

19 Q. And that 12-shot repeater was made by
20 John Shaw?

21 A. Yes.

22 Q. For the Cookson model firearms, would
23 one need to take any action, after firing one round
24 from the firearm, in order to prepare to fire
25 another round?

1 A. It follows the Lorenzoni procedure, so
2 as I said, I don't recall if you had to work the
3 lever each time. I know that it used -- I know it
4 used gravity to put the powder and projectile in
5 the -- to ready it to fire, but I can't recall on
6 that.

7 Q. To your knowledge, were any of the
8 Cookson model firearms ever sold in the United
9 States?

10 A. We know that they advertised, but I'm
11 not sure of actual production sales or -- not
12 production, sorry. That was a poor word choice.
13 Actual sales.

14 Q. What does it mean -- how would you
15 define "semiautomatic firearms"?

16 A. I do have it in my report, I believe.
17 Just so you know, let me pull it up.

18 So that's page 12, and I have it
19 listed. One other way that we categorized
20 "semiautomatic" is self-loading. It's a term that
21 historians, curators, tend to use, because it's a
22 little bit easier to understand, because it
23 describes how it actually operates.

24 But the definition I have here is: "A
25 firearm in which one round is fired each time the

1 trigger is pressed. The firearm fires one round and
2 chambers another, to be ready when the user presses
3 the trigger again."

4 So with that -- and that's where the
5 term "self-loading" comes in. So with a
6 semiautomatic, you get one round per trigger press.
7 And then as I read, you press the trigger, the
8 bullet come out the end of the barrel, and then you
9 eject a spent cartridge. So an empty -- a spent
10 cartridge case. And then another round is loaded
11 into the chamber, so that when you press the trigger
12 again, it's ready to fire.

13 So that's where that self-loading piece
14 comes in, because you're not taking the cartridge
15 case and -- sorry, the cartridge. You're not taking
16 the cartridge and putting it in there yourself; the
17 mechanism in the firearm with the magazine, in
18 relationship to the actual gun, is what is moving it
19 into the chamber to be ready to be fired. And your
20 finger is what actually causes it to fire, with the
21 trigger.

22 Q. Were the Cookson model repeaters that
23 we had previously gone over, were they considered to
24 be semiautomatic weapons?

25 A. No.

1 Q. The Lorenzoni model repeaters, were
2 they considered to be semiautomatic weapons?

3 A. No.

4 Q. When were semiautomatic weapons first
5 developed?

6 A. In the 1880s.

7 Q. One second. When you say 1880s, do you
8 mean specifically semiautomatic rifles were first
9 developed in the 1880s?

10 A. Correct. And automatic; they were
11 invented right around the same time. And I'm
12 meaning long guns, because pistols don't
13 become popular until -- well, popular.

14 Pistols don't really become --
15 semiautomatic pistols -- sorry. I got ahead of
16 myself there.

17 Semiautomatic pistols are more early
18 1890s, although I believe there's an example of one
19 in 1889.

20 Q. When was the first detachable magazine
21 for semiautomatic rifles developed, if you know?

22 A. Detachable magazines. The Borchart
23 has a detachable magazine, and that was '92, 1892,
24 1893. I'm not sure if there was one on a rifle
25 before that. I can't remember when Mannlicher,

1 Ferdinand Mannlicher was experimenting with --
2 because his -- sorry.

3 When I start thinking about this stuff,
4 a lot of things come into my brain at once.

5 Ferdinand Mannlicher had the bolt
6 action that had, you know -- that had a magazine for
7 it. I don't know if early semi-autos were
8 detachable, but I do know that the Borchardt, which
9 is a semiautomatic pistol, was a detachable
10 magazine. And that would have been the beginning of
11 the 1890s.

12 Q. I want to turn now to the
13 interconnectivity between military and civilian
14 firearms point that you raise in your report.

15 Is it correct that at multiple points
16 in your report, you state that the line between
17 civilian firearms and military firearms is blurred?

18 A. I do.

19 Q. What's your basis for making that
20 statement?

21 A. Gosh, there's a lot of reasons why I
22 make that statement. At the most fundamental level,
23 you can look at early firearms technology, and I
24 believe I reference this in my report. But the
25 earliest of firearms technology is the hand cannon.

1 And the hand cannon is essentially a cannon for your
2 hand. So there's not really a major sporting
3 purpose for it.

4 Although crossbows and longbows, which
5 are military weapons, are very popular in sport at
6 the same time; it's just firearms technology is a
7 little bit further behind it.

8 So for that, you've got something
9 that's military-based. But then when they develop
10 the first ignition system, the matchlock -- and I
11 can explain that if you want, or I can just say
12 "matchlock" and we can move on. The matchlock is
13 something that has a military application for a long
14 time as a single-shot musket. But within the first
15 century, since the matchlock has been invented, so
16 around 1400, by 1450, there's rifling.

17 Rifling is invented; meaning that it's
18 basically the dug-out spiral lands and grooves
19 inside a barrel. And what that does is allow a
20 firearm to fire more accurately. So you have a
21 matchlock that's being used in the military as
22 what's called a smooth bore; so there's no rifling
23 inside the barrel. Less accurate, but works for the
24 tactics of the time. The style of warfare that they
25 had, the accuracy wasn't necessarily the most

1 important component.

2 So when rifling becomes available, even
3 though it exists and it's superior in terms of
4 accuracy, it's not necessarily something that the
5 military can apply effectively; for several reasons,
6 but one being that the loading process with a round
7 musket ball into rifling has to fit so snugly that
8 it slows the loading time.

9 So the benefit of rifling, when you
10 need speed in shoulder-to-shoulder fighting, it's
11 not enough for the military to want it. But that
12 doesn't mean that rifling goes away; that means
13 that, you know, now the civilian market is utilizing
14 rifling for hunting. And they're also utilizing
15 rifling for target shooting, which becomes
16 incredibly popular by the end of the 1400s.

17 So you've got -- in this example,
18 you've got an ignition system; you've got
19 technologies that were invented; and all these
20 things are available. And some the military will
21 use, some civilians will use, some they'll use for
22 both. So it's interconnected. Just because
23 something exists in technology with firearms doesn't
24 mean the military wanted it, it doesn't mean the
25 civilians wanted it, and sometimes it's a mixture in

1 between.

2 Q. So even if it's true that some firearms
3 technology that was developed for military use
4 later, or at some point, became used by -- for
5 civilians use as well, it's also true that not every
6 firearms technology that is used by the military is
7 also used by civilians?

8 A. How do you mean that?

9 Q. Well, you said -- you said that some
10 technology has military use, some has civilian, some
11 has both. Is that accurate?

12 MR. SCHMUTTER: Objection,
13 mischaracterizes the record.

14 Q. I want to understand your answer. Was
15 that your testimony?

16 A. So some firearms technology is driven
17 by the military, but that doesn't mean the military
18 adopts it. And a lot of times, it ends up in the
19 civilian market as a result. And then there are
20 other things that the civilian market produces that
21 then gets adopted by the military, even though its
22 initial purpose was for civilians.

23 Q. And there was some technology that was
24 developed by the military that was never adopted to
25 civilians use. Is that correct?

1 A. I can't -- other than a modern-day
2 conversation after the Hughes Amendment, I can't
3 think of something that the military would have
4 made -- firearms-wise, I don't -- I'm not -- I don't
5 know about, you know, tanks and that. But
6 firearms-wise, I can't think of something that the
7 military would have developed that the civilian
8 market wouldn't have had access to.

9 Q. Well, would you agree there's a
10 difference between having access to something, and
11 using it in widespread use?

12 MR. SCHMUTTER: Objection, compound
13 question.

14 A. I mean, if you have access to it, and
15 it's not regulated for you not to have it, it's
16 still available for civilians. And so that's -- to
17 me, that's what would be an important factor.

18 Q. Well, let's do this. I'll direct you
19 to page 35 of your report.

20 A. You said page 30?

21 Q. 35.

22 A. Oh, 35, sorry. Okay. I am on 35.

23 Q. The first full paragraph, third
24 sentence, I will read it.

25 "Developed in the 16th century, the

1 bayonet was commonly used for both military and
2 civilian firearms."

3 Did I read that correctly?

4 A. Yes.

5 Q. When you made this statement, what time
6 period are you referring to when you say it was
7 "commonly used for both military and civilian
8 firearms"?

9 A. Oh, I was referencing the earlier days,
10 when you would have a plug-in bayonet for -- that
11 was used for hunting purposes.

12 Q. But what time period? Like, what
13 years, what century?

14 A. I don't know when they would have
15 stopped, but 1700s? Up through the 1700s?

16 But I should point out, since you did
17 read that, "commonly" I wasn't using it in the legal
18 sense of the word, because I know that that has a
19 particular meaning legally.

20 I was just speaking more, you know,
21 holistically about the fact that when bayonets were
22 initially developed, they were being used for
23 hunting and the military.

24 Q. What do you mean when you say bayonets
25 were used for hunting?

1 A. They were used for hunting.

2 Q. Are you relying on any particular
3 sources for that?

4 A. I don't have anything cited, but I know
5 when we were researching Cody, that we have guns in
6 the collection that had plug-in bayonets that could
7 be used for like spearing different animals as a
8 kind of a backup. Because if you're hunting with
9 one shot at a pig, you know, a lot of times you had
10 that kind of backup option.

11 Q. Is it correct that you also state in
12 your report that historically, civilians have often
13 had superior weaponry compared to what the military
14 had?

15 A. Yes.

16 Q. What's your basis for making that
17 statement?

18 A. I think, again, there's so many
19 timeframes and examples you can give. But I think
20 at least in reference to the Founding era, I
21 think -- and I don't want to beat a dead horse on
22 rifling, but if you look at the -- let me make sure
23 I gather my thoughts.

24 If you look at what the military is
25 adopting in the 1700s or earlier, and even into the

1 1800s, versus what civilians are using for different
2 purposes, the technology is not necessarily
3 superior. So I know I mentioned this with the
4 matchlock, but the same goes for the flintlock in
5 warfare in the 1700s.

6 So there were repeaters available.
7 There were rifles available. Which, again, I
8 mentioned rifling makes things more accurate; you
9 get greater distance. And long rifles, which were
10 popular in America and were modified off of a German
11 hunting rifle, they were used for multi-purposes in
12 the Colonies and in early America. They were used
13 in target shooting competitions, they were used for
14 hunting and they were used for defense. And then in
15 specialized avenues, they were used by the military;
16 but not en masse, like the standard-issue musket
17 would be.

18 So you've got the access to something
19 that can be repeating. You've got the access to
20 something that has superior accuracy. And you see
21 that, into the Revolution, what the soldiers are
22 carrying are single-shot muzzle-loading muskets,
23 smooth-bore muskets; so no rifling.

24 And for that, that reason being,
25 that -- well, several, but one is tactics. I mean,

1 people are fighting shoulder-to-shoulder. And when
2 you're doing that, accuracy isn't necessarily the
3 most important thing to accomplish your goals in a
4 military setting. So you don't necessarily want to
5 have the more accurate firearm, because of expense,
6 because of slow-to-load time.

7 So you take -- you can use that piece,
8 like the long rifle was used in some riflemen's
9 units, but not nearly as much as people think they
10 were used. But you've got -- you can use it for
11 specialized purpose, but that is an example of
12 superior technology that the military can't quite,
13 at that point in history, find a way to apply it
14 across the board.

15 And so in that respect, that is better
16 technology that the civilians are really taking
17 advantage of.

18 And the same with repeaters. I mean,
19 there aren't effective repeaters on the battlefield
20 till the mid-19th century. And even if you look at
21 the 1870s and the Plains Indian wars, you've got
22 soldier carrying single-shots. Now they're rifles
23 now, and they're breach loaders, so they load from
24 behind the barrel. But they're still using
25 single-shots as a choice for, you know, some

1 infantry, for cavalry. But repeaters were very
2 prominent and very popular by that time frame.

3 So that's kind of the general basis for
4 it: Is that you've got what technology was
5 available, what people were owning; and then what
6 the military was actually adopting is sometimes a
7 lot less accurate, fast, detailed, than you would
8 get in a civilian market. You just have more
9 options in the civilian market.

10 Q. With regard to the answer that you just
11 gave, what source materials are you relying on
12 specifically?

13 A. For the existence of rifling and that
14 information? That's more just my knowledge from
15 researching and building a museum. I mean, there
16 are some footnotes to it, but it's just in general.

17 Q. I also want to direct your attention to
18 page 18 of your report.

19 A. Okey-doke.

20 Q. And I'm going to direct you
21 specifically to the second sentence of the second
22 paragraph, and I will read it.

23 "While the military, as previously
24 referenced, sometimes utilized superior civilian
25 arms, civilians could also possess guns that were

1 traditionally associated with the military, such as
2 cannons."

3 Did I read that correctly?

4 A. You did.

5 Q. What purpose would a civilian have for
6 a cannon?

7 A. I don't know specifically, but that
8 specific reference is to -- if I'm remembering that
9 correctly, is to an inventory of arms owned by
10 individuals within one of the Colonies.

11 It's not necessarily about need; it's
12 the fact that they could.

13 (Court Stenographer clarification.)

14 A. Need, rather the fact that they could.

15 Q. I want to turn now to page 27 of your
16 report.

17 A. Okey-doke.

18 Q. All right. Actually, the last sentence
19 on the page. I want to turn your attention to that.

20 A. Okay.

21 Q. And on this page, are you -- if I
22 understand what you're saying, it's that even though
23 manufacturing firearms was sometimes dangerous
24 during the Founding era, it was not regulated in the
25 same way that gunpowder storage was. Is that

1 accurate?

2 MR. SCHMUTTER: Objection,
3 mischaracterizes the record.

4 MR. VANNELLA: Strike that. I'll
5 withdraw my question.

6 Q. The last sentence on this page states,
7 "Notably, even to some of the less successful
8 firearms designs with flaws, imperfections, and
9 issues, it is interesting that while the Founding
10 Fathers were aware of them, manufacturers could
11 continue to produce those designs to my knowledge,
12 without regulation, unlike the fire safety laws that
13 were enacted to regulate gunpowder."

14 Did I read that correctly?

15 A. You did.

16 Q. So are you saying that manufacturing
17 firearms during the Founding Era was not regulated
18 in the same way as gunpowder storage during that
19 time period?

20 A. Not necessarily. I'm speaking in this
21 respect specifically to the kind of fire safety laws
22 that exist for powder, to keep people safe within
23 town limits. I am aware some of the designs were
24 not perfected with the firearms back then.

25 So my point is in general, you don't

1 see regulations on the various repeating firearms,
2 whether or not they have kind of structural
3 instabilities. You don't see that appear for public
4 safety, where you do see that appear with gunpowder.

5 That was it. It wasn't a grand
6 statement on all manufacturing; it was just an
7 observation on the fact that structural instability
8 with some repeaters was known but not regulated.

9 Q. When manufacturing firearms, would the
10 manufacturers normally keep the firearms loaded or
11 unloaded?

12 A. When making the firearms?

13 Q. Yes.

14 A. They would have been unloaded.

15 Q. So they would not be capable of firing
16 off accidentally as they were being manufactured.
17 Correct?

18 A. Well, it depends. Because if you're
19 doing testing on them -- because there's different
20 times where you test barrels and that kind of thing.

21 Q. Right. But other than when they're
22 being tested, they would otherwise not be loaded.
23 Correct?

24 A. Correct. However, just as a comparison
25 to your line of thinking, in the making process of

1 the gun, you're right: Unless it's being tested,
2 it's not necessarily going to be loaded. But the
3 powder in the fire prevention laws are not loaded
4 into a gun necessarily, it's more about keeping the
5 quantity, because gunpowder is incredibly flammable.
6 So it's not about it being loaded into a gun in that
7 circumstance, either.

8 Q. Well, would the manufacturer of the
9 firearm have the same amount of gunpowder to
10 test-fire it as someone who is actually making the
11 gunpowder?

12 A. I'm not sure.

13 Q. Do you know, when they do fire the --
14 when they test-fired the weapons, would it be in a
15 populated area or a less-populated area?

16 A. I would assume a less-populated area.

17 Q. Would any of these have been reasons
18 why fewer regulations in the book would have been
19 needed for firearm manufacturing, as opposed to
20 gunpowder storage or for --

21 MR. SCHMUTTER: Objection,
22 mischaracterizes the record.

23 A. Can you kind of reframe that a little
24 bit?

25 Q. Are there not reasons that you're aware

1 of why there might have been the need for fewer
2 regulations on firearms manufacturing during this
3 time period, versus gunpowder storage?

4 MR. SCHMUTTER: Same objection.

5 A. I'm not sure.

6 MR. SCHMUTTER: Hey, Dan, is there a
7 point at which we could take a ten-minute break?

8 MR. VANNELLA: I'm almost finished.

9 MR. SCHMUTTER: Almost finished,
10 finished-finished?

11 MR. VANNELLA: Yeah.

12 THE WITNESS: Oh, wow.

13 MR. SCHMUTTER: Then we can take a
14 month-long break.

15 MR. VANNELLA: Just a few more
16 questions.

17 BY MR. VANNELLA:

18 Q. Would you agree that at some point in
19 time, there was a shift to mass production of
20 repeaters in factories, compared to earlier time
21 periods?

22 A. I would say that there was a shift to
23 mass production in general, and repeaters were a
24 part of that.

25 Q. And when would you say that time period

1 was, where that occurred?

2 A. Mid-1800s.

3 Q. Would you agree that that was a major
4 technological leap in the gun manufacturing world,
5 compared to earlier than that, when guns were made
6 individually by hand?

7 A. It depends on how you're categorizing
8 "technologically." Because in terms of the
9 evolution of the technology, in terms of
10 muzzle-loading/breach-loading,
11 repeating/single-shot, rifling, various calibers;
12 that's all continuing to just kind of develop and
13 evolve over time.

14 If you're talking about production
15 capacity, then that is -- you know, it's a much
16 broader -- it allows for diversification of models,
17 people being able to buy firearms for more reasons,
18 rather than having a multi-purpose gun, like a long
19 rifle. But it just depends on your definition of
20 the technical evolution.

21 Q. Well, when that did occur, would you
22 agree that, historically speaking, that that was a
23 significant change in American history, that
24 repeaters became available by mass production?

25 MR. SCHMUTTER: Objection to

1 foundation, ambiguous and undefined.

2 A. In terms of that question, I mean,
3 you're making it about repeaters, but it sounds -- I
4 mean, it's something that's much bigger than that.
5 That mass production is something -- the ability to
6 mass produce is not isolated to firearms. It's not
7 isolated to single-shots or repeaters. It's across
8 the board, all industries during that timeframe.

9 So I wouldn't, you know, specifically
10 call out repeaters in that respect.

11 Q. Right. But my question was just about
12 repeaters. Would you agree that that was a
13 significant change in American history?

14 MR. SCHMUTTER: Objection, ambiguous,
15 undefined, lack of foundation.

16 A. Ask me the question one more time,
17 because I don't know if we're hearing it the same
18 way.

19 MR. VANNELLA: Ellen, could you reread
20 my -- not my last question, but the one before.

21 (The question and answer are read.)

22 MR. SCHMUTTER: Same objection.

23 A. I love hearing my stream of
24 consciousness read back to me.

25 I don't think that it's -- the issue

1 that I'm having in trying to answer your question is
2 that I just don't think it's exclusive to repeaters.
3 And that the repeating technology had already been
4 developed.

5 And I think an interesting example is
6 in that transition period for mass production. And
7 I believe my report references some of it; maybe I'm
8 wrong. But the transition period for mass
9 production, you see companies starting to take hold,
10 Colt's assembly-line procedures. But even
11 initially, Colt was having barrels made by different
12 people, before you got into mass manufacture.

13 But you've got companies that are now
14 learning how to mass produce, and they're doing it
15 on single-shots; they're doing it on repeaters. But
16 then you still have a lot of individual gun makers
17 that are making things on their own, and they're
18 making single-shots and repeaters.

19 So obviously, in terms of quantity, you
20 know, the mass production -- the quantity, unity,
21 quality, mass production allows that across the
22 board for the population, but I don't think it's
23 specifically one technology or the other at that
24 point.

25 Q. In the entire course of history of

1 firearms technology, you know, within your
2 knowledge, were there any developments that you
3 would consider to be, you know, significant
4 innovations in firearms technology in general, when
5 they occurred?

6 MR. SCHMUTTER: Objection, ambiguous,
7 undefined terminology, lack of foundation.

8 A. I mean, it does go back to kind of how
9 you define "significant," because you can take the
10 overall history, you can take ammo history.

11 But I would say that -- you know, it
12 continues to be -- obviously, there are great -- you
13 know, a great progression in all technologies. But
14 it's all kind of incremental, and builds upon each
15 other. But I would say that a good indicator of
16 some of those developments, or at least how they
17 developed, is in my timeline that I provide in my
18 report.

19 You know, it provides the evolution of
20 the ignition systems, revolvers, breach-loading
21 versus muzzle-loading, changes in ammo, different
22 types of systems. I think that kind of provides a
23 good overview of some of the developments.

24 Because when we wrote Cody, I had to
25 whittle that down super-tightly. So those are the

1 ones that kind of stayed on the list, so they're
2 important in the incremental development.

3 Q. I just have a few more questions about
4 magazines, and specifically, I mean detachable
5 magazines.

6 A. Okay.

7 Q. Do you consider those to be part of the
8 firearm itself, or do you consider it to be
9 something separate, whether it's an accessory or an
10 accoutrement, or something else?

11 A. I consider it to a part of the firearm.
12 I actually think that I have that -- "magazine"
13 defined under Parts of the Gun in my Terminology
14 section.

15 Q. Just to be clear, we asked a lot of --
16 I asked you a lot of questions about repeaters that
17 did not include a detachable magazine. Correct?

18 A. We talked a lot about repeaters that
19 did not have a magazine, necessarily. We didn't
20 spend as much time on the integral versus detachable
21 magazine, but it was mentioned in passing.

22 Q. So just so I'm clear, I'm talking about
23 now about detachable magazines. You would consider
24 those to be part of the firearm as well?

25 A. I do.

1 Q. Is it fair to say that the firearms
2 that existed during the Founding era were less
3 capable of inflicting harm on a person than the
4 assault weapons that are available today?

5 MR. SCHMUTTER: Objection -- objection,
6 undefined, ambiguous and no foundation.

7 You can answer.

8 A. I would say that's outside of my area
9 of expertise.

10 MR. VANNELLA: Can we take a ten-minute
11 break, and I'll see if I have any other questions?
12 Otherwise, I might be done, but I'll let you know
13 when we get back.

14 THE WITNESS: Okey-doke.

15 (A brief recess takes place.)

16 BY MR. VANNELLA:

17 Q. Back on the record. Ms. Hlebinsky, did
18 you speak with anyone during our break concerning
19 the substance of your deposition testimony?

20 A. Nope.

21 MR. VANNELLA: Okay. Thank you very
22 much; I do not have any further questions.

23 MR. SCHMUTTER: I just have a couple of
24 questions.

25 EXAMINATION BY MR. SCHMUTTER:

1 Q. You were asked what things are you
2 billing for, and you mentioned several items,
3 including preparing your report, testifying,
4 preparing for your deposition.

5 Are you also billing for other things
6 relating to this litigation, including, but not
7 limited to, conversations with me, reviewing
8 defendants' experts reports, those kind of things;
9 in addition to simply writing and testifying?

10 A. Yes, correct. I was lumping them all
11 into the researching and writing category, but
12 you're correct.

13 Q. You were asked -- sorry. I'm having a
14 technology problem here. I apologize. There we go.

15 You were asked a number -- let me
16 direct your attention to pages 24 and 23 of your
17 report.

18 A. Okay.

19 Q. I believe you were asked some questions
20 about whether -- I don't know if I'm going to get
21 the exact language correctly of the question, I just
22 want to sort of direct -- I want to refresh your
23 recollection as to a line of questioning, really.

24 But you were asked along the lines of
25 whether there were repeating firearms in excess --

1 with a capacity in excess of ten in the United
2 States in -- I believe 1791 or earlier, or something
3 like that.

4 And you referred to page -- among other
5 things, you referred to pages 23 and 24 of your
6 report, and you were discussing some of the items in
7 there, and other items as well.

8 There was -- my recollection is, there
9 were some confusion about what the scope of the
10 question was. So you gave -- you gave -- you
11 started giving an answer, which I think began with
12 reference to page 23 of your report, and then you
13 went on from there.

14 And then I believe Mr. Vannella either
15 clarified the question or modified the question, or
16 maybe even asked the same question in a different
17 way. You then started referring to page 24 of your
18 report, where I think you talked about the Cookson
19 and the Lorenzoni and things like that.

20 Did you intend to answer the question
21 differently, or were you just continuing your answer
22 that you had been giving when he first started that
23 line of questioning?

24 A. I was --

25 MR. VANNELLA: Objection.

1 A. I'm sorry.

2 MR. VANNELLA: Objection.

3 Mischaracterizing the record. Vague and ambiguous.

4 You can answer.

5 Q. You can answer.

6 A. Recalling that conversation, it was
7 essentially a continuation of talking about
8 repeating firearms that were in existence prior to
9 the Founding era. The confusion I had was that,
10 partway through, I couldn't recall, Mr. Vannella, if
11 you had asked about magazines, specifically. And
12 that's where we kind of went back and forth, because
13 I thought I was not providing the right list of
14 things.

15 And so once I knew what we were talking
16 about, that we were talking about repeaters, I just
17 kind of continued, and then also pointed out some of
18 the magazines ones.

19 So it was a continuation, but with a
20 little intermission to make sure I was grabbing all
21 the different repeaters for what you wanted.

22 MR. SCHMUTTER: I have no further
23 questions.

24 MR. VANNELLA: Nor do I.

25 Ms. Hlebinsky, I said so previously off

1 the record, but on the record, I just want to thank
2 you very much for your time today, especially you
3 starting at a much earlier time of the day than the
4 rest of us.

5 MR. SCHMUTTER: Should we just confirm
6 whether Ray DiGuiseppe has any questions?

7 MR. DIGUISEPPE: I don't have any
8 questions, but thank you.

9 MR. VANNELLA: So again, thank you very
10 much, Ms. Hlebinsky, for your time today. We
11 greatly appreciate it.

12 And I think that's it.

13 MR. SCHMUTTER: Thank you.

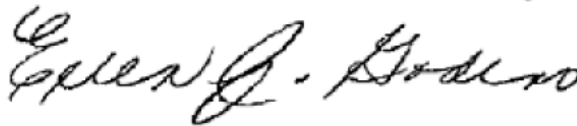
14 (The proceedings concluded at
15 2:29 p.m.)

C E R T I F I C A T E

I, ELLEN J. GODINO, CCR, CRCR, RPR, do hereby
certify that prior to the commencement of the
examination, ASHLEY HLEBINSKY was duly sworn by me
to testify the truth, the whole truth and nothing
but the truth.

I DO FURTHER CERTIFY that the foregoing is a
true and accurate transcript of the testimony as
taken stenographically by and before me at the time,
place and on the date hereinbefore set forth, to the
best of my ability.

I DO FURTHER CERTIFY that I am neither a
relative nor employee nor attorney nor counsel of
any of the parties to this action, and that I am
neither a relative nor employee of such attorney or
counsel, and that I am not financially interested in
the action.



ELLEN J. GODINO
CERTIFIED COURT REPORTER
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CERTIFIED REALTIME COURT REPORTER
DATED: August 14, 2023

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3 August 14, 2023

4 RE: Blake Ellman, Et Al. v. Matthew Platkin, Et Al.

5 8/11/2023, Ashley Hlebinsky (#6040712)

6 The above-referenced transcript is available for
7 review.

8 Within the applicable timeframe, the witness should
9 read the testimony to verify its accuracy. If there are
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17 Return completed errata within 30 days from
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1 Blake Ellman, Et Al. v. Matthew Platkin, Et Al.

2 Ashley Hlebinsky (#6040712)

3 E R R A T A S H E E T

4 PAGE_____ LINE_____ CHANGE_____

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25 _____

1 Blake Ellman, Et Al. v. Matthew Platkin, Et Al.

2 Ashley Hlebinsky (#6040712)

3 ACKNOWLEDGEMENT OF DEPONENT

4 I, Ashley Hlebinsky, do hereby declare that I
5 have read the foregoing transcript, I have made any
6 corrections, additions, or changes I deemed necessary as
7 noted above to be appended hereto, and that the same is
8 a true, correct and complete transcript of the testimony
9 given by me.

10
11 _____
12 Ashley Hlebinsky

_____ Date

13 *If notary is required

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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**600 YEARS OF HISTORICAL DEVELOPMENT OF
FIREARM TECHNOLOGIES GENERALLY
ASSOCIATED WITH ASSAULT WEAPONS BANS
AND MAGAZINE LIMITATIONS**

Expert Report

Ashley Lynn Hlebinsky
President, The Gun Code, LLC
Senior Fellow, University of Wyoming's Firearms Research Center

This report was prepared at the request of the law firm, Hartman & Winnicki, P.C. at the rate of \$450/hour. It provides historical background on firearms and their features as they relate to technologies under New Jersey law that fall under the legal definition of "assault firearm" and "large capacity ammunition magazine."

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SECTION 1: INTRODUCTION

S1.1: BACKGROUND AND QUALIFICATIONS

I am a firearms historian, museum professional, and public educator, specializing in material culture studies, as well as a firearms and ammunition-related museum consultant, expert witness, freelance writer, and guest lecturer. Previously, I served as the Robert W. Woodruff Curator-in-Charge of the Cody Firearms Museum (henceforth to be known as the CFM), where I curated and managed a collection of around 7,000 firearms from the 1200s through modern day, with over 20,000 related artifacts, including ammunition, edged weapons, and accoutrements. I also served as the Project Director on the museum's full-scale multimillion dollar renovation, responsible for every aspect including but not limited to research, content, exhibition, and installation, which reopened in 2019. In Summer 2022, I co-founded the University of Wyoming College of Law's Firearms Research Center.

I have spent the last fifteen years immersed in the study of firearms history, technology, and culture. I earned both bachelor's and master's degrees in American History from the University of Delaware, during which I studied firearms history and culture and instructed undergraduate students about military weaponry until World War I. Much of my work since then focuses heavily on material culture surrounding the macro-history of firearms and how their developments have affected industry, culture, and society for centuries. I have been fortunate to work in some of the largest collections in the United States, beginning my career as a researcher and fellow in the Smithsonian Institution's National Firearms Collection housed in the National Museum of American History.

Additionally, I spent a decade working with and running an American Alliance of Museum's accredited museum, the CFM, a part of the Buffalo Bill Center of the West, which receives approximately 200,000 visitors annually. Of the 200,000 people, it is estimated, based on survey data, that only 50% of those people admit to having a background or specified interest in firearms. During my tenure, I also served as Project Director of the museum's renovation. With the aid of my team, I was responsible for all facets of the renovation including but not limited to concept, content, fundraising, and collections management. Final content for the museum was peer reviewed internally and

by an external panel of experts, including academic historians, museum professionals, teachers, public educators, gun collectors, and people unfamiliar with firearms, as well as people with a range of different political views on guns. The resulting museum, which reopened July 2019, provides a more interpretive space to facilitate productive dialogue on firearms and their roles in history. Throughout the CFM, terminology and definitions play a significant role in educating both visitors not familiar with firearms and those who consider themselves aficionados. Because roughly half of the museum's audience is not familiar with firearms, we dedicated an entire gallery at the front of the museum to understanding the basics of firearms past and present, their features, ammunition, and safety. Since its opening, the museum has received favorable reviews from the Wall Street Journal and National Public Radio for its accessibility to diverse audiences and thoughtful handling of what can be a sensitive topic. It has also been praised for its efforts to educate on and impact firearms safety.¹

During my time at the CFM and through my consulting, I have become nationally known for and sought after to provide a material culture perspective on firearms history that is often lacking in many modern, academic, and legislative discussions on firearms. I guide museums as well as other non- and for-profit organizations and government entities on the interpretation and understanding of that history. I have previously prepared reports and/or given testimony regarding the history of magazines, repeaters, and/or "assault weapons" (roughly equivalent to the New Jersey legislative term "assault firearm") for *Miller v Becerra (Bonta)*, *Ocean State Tactical et al v Rhode Island*, *Virginia Duncan v Bonta*, *State of Washington v. Federal Way Discount Guns et al.*, *Oregon Firearms Federation et al. v Oregon*, *Rupp v. Bonta*, *Barnett v. Raoul*, and *Guardian Arms v Inslee*. In May 2021, I testified in front of the Senate Judiciary Subcommittee on the Constitution's Hearing regarding "Ghost Guns," for which I researched and discussed the long history of privately made firearms and evolution of arms technology from the colonies through the 1960s. Because I have worked in several national collections that have upwards of 10,000

¹ Rothstein, Edward. "Handled With Care" *The Wall Street Journal*. September 27, 2019, <<https://www.wsj.com/articles/handled-with-care-11569601047>> Accessed June 15, 2023. Kudelska, Kamila. "Firearms Museum Focuses on Gun Safety, History and Culture." *NPR*. August 25, 2019, <<https://www.npr.org/2019/08/25/753448348/firearms-museum-focuses-on-gun-safety-history-and-culture>> Accessed June 15, 2023.

firearms each – collections that range from the earliest through most recent technology – I have developed a broad understanding of how firearms have evolved.

Working in large collections not only provided me an opportunity to gain knowledge of the entirety of firearms history, but also afforded me the opportunity to handle, assemble and disassemble, and shoot historic replica firearms. At the Smithsonian Institution's National Firearms Collection, I regularly handled firearms within the collection, with a specific emphasis on the U.S. Patent Office collection as well as the Edwin Bitter Martial Pistol collection. Over a decade at the CFM, I handled a large majority of the collection, not only in routine daily work, but also, when we were responsible for the deinstallation of over 4,000 firearms from the galleries into temporary storage during the renovation and the reinstallation of over 5,000 firearms. We routinely hosted visiting researchers and conducted our own research, so we would provide access to the artifacts in the collection. Sometimes we would allow for the disassembly of firearms for researchers to provide a more technical understanding of the internal mechanics of guns. We also disassembled firearms for photos as well as the examination of the artifacts for preventative maintenance. Running an internationally recognized and respected museum has also allowed me to spend time in other museums and private collections around the world, including the Institute of Military Technology (Titusville, FL), the Royal Armouries (Leeds, UK), and the Dutch Nationaal Militair Museum (Soest, Netherlands). Professionally, I am a member of several collector organizations, such as the preeminent American Society of Arms Collectors, which boasts the highest quality of collectors and museum curators. Because of this exclusive access, many have allowed me to shoot either reproduction or original – if stable enough – firearms to get a deeper understanding of the operation of the firearm from a user's perspective. Because firearms are so technically complicated, it is valuable to not only have researched them but also to have practical experience with them. I have shot representative examples in the evolution of firearms technology, from the earliest gun, the hand cannon to modern machine guns. Additionally, I have a firsthand understanding of the process required to make early arms, as I co-hosted a weapon making show on Discovery channel, entitled *Master of Arms*. I have also served as a writer and producer for several firearm history shows on History and Outdoor Channels.

In addition to my historical scholarship, I also have played a role in the public education around firearms. I have been responsible for the education of tens of thousands of students from elementary through college levels, teaching not only firearms safety and basics, but the historical and technical evolution of the firearm. In 2017, I developed the first full-scale symposium in the United States dedicated to the study of firearms in museums as material culture, which reoccurs annually. These symposia were organized to bring together firearms scholars from around the world to discuss their collections and create metrics to analyze the quality of scholarship that already has been done in the field. To continue that mission, I sit on the Editorial Board for the recently revived, peer-reviewed arms journal, *Armax*, and I co-founded the University of Wyoming College of Law's Firearms Research Center in 2022. Despite its location in the College of Law, this new Center intends to encourage research of all types related to arms and ammunition.

Currently as a museum consultant, I am in the process of working on several museums with heavy emphasis on firearms collections. I also conduct workshops on firearms, survey collections, and curate exhibitions at institutions such as the Houston Museum of Natural Science, CM Russell Museum & Complex, and the Mob Museum. I have served as a scholar and a panelist for the National Park Service and the Organization of American Historians on a forthcoming Coltsville National Historic Site. A current copy of my Curriculum Vitae summarizing my education and experience is attached at the end of this document as **Exhibit A**.

S1.1A: PRIOR EXPERT WITNESS TESTIMONY

Guardian Arms LLC et al v Jay Inslee, May 2023

Federal Firearms Licensees of Illinois v Pritzker, March 2023 (Barnett v Raoul)

Rupp v. Bonta, February 2023

Oregon Firearms Federation et al v Oregon, December 2022

State of Washington v Federal Way Discount Guns et al, December 2022

Virginia Duncan et al v Bonta, November 2022

Ocean State Tactical et al v Rhode Island, October 2022

Senate Judiciary Subcommittee on the Constitution, Stop Gun Violence: Ghost Guns, May 2021

Franklin Armory et al v Rob Bonta, February 2021

FN Herstal v Sturm, Ruger & Co, January 2021

Sturm, Ruger & Co. v American Outdoor Brands Corp., October 2020

Guedes v BATFE, June 2019

Miller v Becerra (Bonta), November 2019

Regina (Nova Scotia) v Clayton, January 2019

Garrison v Sturm, Ruger & Company, Inc. 2018

S1.2: SCOPE OF WORK

This report has been prepared at the request of the law firm Hartman & Winnicki, P.C. It will establish an interconnectivity between military and civilian firearms. Dating to the earliest firearms ignition system in the early 1400s, firearms were used for both military and civilian purposes. Civilian purposes include target shooting, hunting, and defense. Due to financial restrictions as well as wartime tactics, superior technology was often the property of civilians rather than the military. Those private purchases could then be used for sport and/or defense. Soldiers would also independently acquire firearms that they could carry into battle to supplement their standard issue military arms. As manufacturing processes improved, it was also common for civilians to purchase surplus military firearms following a war for a much more inexpensive price – a trend which continues even today.

This report will also identify major developments in firearms and ammunition technology, with an emphasis on history until 1911. In six hundred years, firearms technology gradually transitioned via many incremental innovations from an ignition system that utilized a burning match to fire a gun to the use of gas operating systems. Additionally, ammunition transitioned from the use of a round musket ball that was typically loaded after a measured amount of gun powder down the end of the barrel to a self-contained cartridge loaded from the breech. It will also identify developments in firearms technology including rifling (1450), repeating firearms (1400s), revolving cylinders (1680s), magazines (1630s), and other features often associated with New Jersey statutes.

This information will inform the following conclusions: 1. Until recently, civilians often had superior firearms than the military. The 1986 Hughes Amendment, a civilian

machine gun ban, shifted that trend in the opposite direction. 2. Technologies often associated with modern day have roots back as far as the 1400s in some respects, and those modern-day firearms are the direct descendants of a centuries long trail of innovations that gradually and continually advanced firearms technology for the purpose of increasing efficiency and effectiveness. 3. It is likely that individuals during the Founding Era were aware (a) that these technologies existed before and at the time of the Founding Era and immediately thereafter and (b) that firearm technology previously underwent and would in the future undergo significant change and innovation.

S1.3: METHODOLOGY

In terms of methodology, I typically use a combination of peer-reviewed articles and books, as well as established works by firearms researchers and collectors, and surviving artifacts. The study of firearms often differs from other fields within academic history. By academic history, I am referring to standard practices within the American university system, most often by those with J.D.s or Ph.Ds. More commonly though, scholarship surrounding firearms has been done by collectors, curators, and non-traditional researchers. For example, in the past many firearms museums across the world have been curated by a collector for the collector and aficionado rather than someone with a degree in museum studies and history. Because of how technical firearms are, these works lend themselves to being studied alongside surviving examples as well as primary source material. Some of the best research in the twentieth and twenty-first centuries has been done by these individuals, resulting in many academic scholars citing those sources, despite not being traditionally peer reviewed or published in a university press. I do not automatically use academic scholarship because while some of the scholarship is informative and provides crucial context to larger narratives surrounding firearms, it also can be technically flawed. It is important to maintain an open mind and find a balance between these two seemingly divergent forms of scholarship when considering quality of content to inform modern day legislation.

S1.4: TERMINOLOGY

Throughout this report, I will define terms as they appear, however, there are overarching definitions I would like to address outright. Due to variances within state and federal laws of firearms and ammunition related terminology, I wanted to provide greater clarity on how I understand these terms as they do not always align with legal definitions. These definitions were originally created and/or vetted for use in the Cody Firearms Museum by a combination of internal staff and an external panel of authorities, including researchers, collectors, curators, public educators, and historians.²

Overarching Terms:

Arms: Short for armaments; blades, bows, firearms, etc.

Firearm: A portable gun

Gun: A device incorporating a tube from which bullets, shells, or other projectiles are propelled by explosive or expanding gases.

Weapon: An object used for threatening or inflicting bodily harm (whether for defensive or offensive purposes). The military refers to firearms as weapons.

Types of Firearms

Carbine: A shorter rifle, usually with a 20 inch or less barrel

Handgun: a short-barreled firearm meant to be fired with one hand. The term pistol is often used interchangeably.

Machine Gun: An automatic firearm either portable or mounted.

Musket: A military long gun, typically smoothbore, meant to be fired from the shoulder or off a rest.

Revolver: A type of handgun that has a revolving cylinder.

Rifle: A firearm with *rifling*, designed to be fired from the shoulder.

Shotgun: A smoothbore gun (*no rifling*) that fires shot (smaller pellets).

Submachine Gun: An automatic firearm that is portable and fires a pistol cartridge.

Parts of a Gun

Barrel: The component of a firearm through which projectiles travel.

Bore: The hollow portion inside a gun barrel.

Breech: The rear end of the barrel.

Chamber: The part of the barrel in which a cartridge is inserted before being fired.

Cylinder: The rotating portion of a revolver, consisting of multiple chambers.

Forearm: A wooden or synthetic stock, forward of the breech, where a shooter can rest their hand to support the firearm. The forearm is there to protect the shooter's hand from the heat of the barrel.

² For purposes of this report, some of the definitions have been modified slightly to align with New Jersey statutes.

Frame: Also known as the receiver; the part of the firearm that holds together barrel, hammer, and trigger.

Grips: The portion of the firearm the user holds. Grips come in many forms, including half or partial, pistol, and forward grips.

Hammer: The part of a firearm that swings to impart a blow to ignite the cartridge.

Magazine: A container, detachable or fixed, where ammunition is stored while feeding a repeating firearm. *Note: Not interchangeable with clip, a device to feed ammunition into a magazine.*

Muzzle: Open end of the barrel from which projectiles emerge when fired

Receiver: Also known as the frame; the part of the firearm that holds together barrel, hammer, and trigger.

Rifling: Spiral grooves inside a barrel used to spin a bullet, much like throwing a football.

Safety: A mechanism designed to prevent accidental discharge.

Sight: Instruments to align a gun to fire accurately.

Smoothbore: An unrifled barrel.

Stock: The wood or synthetic part of the gun that a user holds.

Trigger: A mechanism that activates the firing sequence.

Striker: Also known as a linear hammer, the part of the firearm where a spring-loaded rod is used to strike the primer of a cartridge.

Types of Modern Actions

Action: The way a gun operates.

Automatic: A firearm that fires continuously when a trigger is pressed and stops either when the trigger is released, the firearm is out of ammunition, or it malfunctions.

Note: You may see the term “Automatic Handgun.” This is a colloquial term used for early semi-automatic handguns. They are not machine guns.

Bolt Action: A firearm with a breech that is opened by turning and sliding a bolt.

Break Action: A type of firearm in which the action opens at the breech to load ammunition into the chamber.

Double Action: A type of firearm in which the trigger does two actions, both cocking and firing the gun.

Lever Action: A firearm that uses a lever by the trigger guard to chamber a cartridge and typically, eject a spent case.

Over/Under: A type of firearm where two barrels sit one on top of the other and are loaded at the breech. Another similar style is a Side-By-Side.

Semi-Automatic: (self-loading) A firearm in which one round is fired each time the trigger is pressed. The firearm fires one round and chambers another to be ready when the user presses the trigger again.

Single Action: A type of firearm in which the trigger essentially does one action. A person must cock a hammer before pressing the trigger to fire the gun.

Slide Action: (pump action) A firearm that has a moveable forearm to chamber a round to be ready to fire and eject a spent case after a round is fired.

Ammunition:

Caliber: The internal diameter or bore of a gun barrel.

Cartridge: A type of ammunition that contains a bullet or shot, propellant, and a primer within a case.

Bullet: Projectile.

Shot: Collective term for a group of bullets or pellets.

Propellant: Usually gun powder or smokeless powder. After ignition, the propellant forces the bullet out of the gun.

Primer: A catalyst to ignite propellant.

Case: The housing of cartridge components (metallic, paper, plastic).

Gauge: A term of measurement to describe the internal diameter of a shotgun barrel. It is determined by how many lead balls of that diameter makes one pound; the smaller the bore (caliber), the higher the gauge number because smaller bores take more round balls to make up a pound.

Exception to the Rule: The .410 bore is also a shotgun caliber that does not follow the standard gauge designation and definition.

Shotgun Shell: A form of ammunition loaded with shot or slugs, designed to be fired from a shotgun.

Centerfire: A type of cartridge that fires by a firing pin striking a separate primer in the center of a cartridge case.

Rimfire: A type of cartridge that fires by a firing pin striking a priming compound in the rim of the cartridge case.

Paper Cartridge: A cartridge composed of a powder charge and projectile wrapped in combustible paper that serves as wadding to ensure the projectile is tightly held in the barrel.

Please note, I avoid using colloquial terminology, such as “weapons of war” and “ghost guns” because they are often imprecise and can be used to infer an opinion on the technology itself rather than define something historically and/or legally. However, for this report, I will be using the term assault weapon (or the equivalent New Jersey legislative term “assault firearm”) based on an overarching theme among various federal and state laws as a legislative catch-all term that has differing definitions dependent of proposed legislation that typically center around features of certain semi-automatic firearms. Note, this is not to be confused with the term Assault Rifle, which is defined by the Defense Intelligence Agency (1970) to mean a machine gun that is single person portable, selective fire (meaning it has both automatic and semi-automatic functions) and chambers an intermediate cartridge from a detachable magazine. The terms assault weapon (or firearm) and assault rifle are constantly confused with one another despite being extremely different technologies. Additionally, due to the Hughes Amendment, a part of the Firearms Owners

Protection Act (1986), which is a civilian machine gun ban, assault rifles made after 1986 are not permitted for private purchase, and therefore, not a concern for this case.

I will frequently use the term repeater or repeating firearm. I define this as a firearm, of all types, that can fire more than one round before needing to be manually reloaded. I will also make distinctions between the types of repeaters, with a particular emphasis on those that are magazine-fed. A magazine is a vital part of the firearm; it is a container, detachable or fixed, that holds and feeds ammunition into a repeating firearm. In the periods being discussed, there are repeating firearms that do not use magazines, such as revolvers, which use a rotating cylinder that is as important and integral as a magazine is to fire a gun. When I am discussing a repeater that has a magazine, I will qualify it as such. Additionally, I will use capacity to refer specifically to the number of rounds of ammunition that can be held within a firearm. Please see **Exhibit B** for more definitions.

SECTION 2: GENERAL FIREARMS HISTORY

S2.1: HISTORY OF SPORT AND WAR

The expression “weapon of war” is used a lot in modern and historical discussions surrounding firearms. Today, it is used as an umbrella term to describe a range of different firearms that people perceive as being useful to warfare, regardless of whether they were actually used on or designed for the battlefield. How the expression is used today implies a distinct line between firearms made for the military and firearms made for the civilian market. However, that line for centuries has always been blurred.

Once firearms were developed, technology often advanced too quickly for common battlefield use, finding popularity in the civilian market. Military firearms in a general sense were limited by tactics, government bureaucracy, and expense, while civilian arms, until recently, were predominantly limited by individual budget. Additionally, civilian arms could be employed for far greater number of uses, including hunting, self-defense, and target shooting. The earliest firearms technology appeared on the battlefield by the thirteenth century. The hand cannon, or handgonne, was little more than the name suggests, a cannon for your hands. The user utilized a touchhole and external fire source to ignite powder and fire the gun (**Exhibit C**). This primitive technology may not have been designed for a sporting purpose, but once it was designed, inventors pushed the boundaries, capabilities, and usages of firearms into the future. And while the hand cannon specifically may not have been used for sport, other military weapons of the time such as longbows and crossbows were popularly used for target shooting competitions in fairs during the Middle Ages.

The first true ignition system, the matchlock, was developed around 1400. This firearm, which utilized a burning match cord, was a popular military arm used for centuries around the world (**Exhibit D**). By the end of the 1400s, however, matchlocks and subsequent ignition systems also began appearing in early target shooting competitions (**Exhibit E**). Another example of a firearm being adopted for civilian use dates a century after the matchlock. In the first decade of the 1500s, a highly advanced handgun was developed, the wheellock. This gun, developed for use on horseback, was operated by the turning of a spring-loaded wheel (**Exhibit F**). While it saw some battlefield use, it was

expensive and difficult to repair. As a result, it was used for specialized purposes on the battlefield in Europe, but not as much in the colonies. However, the technology was considered so advanced, some European countries made and used wheellocks for sport in the 1800s. Another example of superior technology being used by civilians rather than military is rifling. Rifling, the boring out of the inside of a barrel with spiral lands and grooves to spin a projectile, thus making it more accurate, was developed in the mid-1400s and appeared predominantly in civilian arms, with a few military exceptions in the American Revolution, until improved developments in ammunition technology allowed it to be more commonly adopted on the battlefield by the mid-1800s (**Exhibit G**). Although in many instances, such as with the infantry, it was not until later in the nineteenth century that tactics caught up enough for rifling to be fully utilized.³

Before the ability to mass manufacture firearms, guns often were privately made by gunsmiths. Although armories existed in some form for centuries, there was significant cross pollination among gunsmiths, who did not work autonomously from one another. Rather, between the sixteenth through eighteenth centuries in Europe, the process of becoming a gunmaker was governed by guilds. These associations set rules about how to identify prospective students as well as create a standard for what they would be taught. As a result, ideas concerning the construction and decoration of firearms flowed freely throughout continental Europe. Another factor that allowed makers to emulate work was the widespread distribution of pattern books illustrating the latest fashions in arms in the years following 1640. Primarily produced in Paris, these books were eagerly sought after by makers throughout Europe and in the eighteenth century even made their way to the American colonies.⁴

Although two armories did exist in the United States around the time of the Founding Era, many guns for the battlefield were made or assembled by individuals or received via foreign aid. It is estimated that 2,500-3,000 gunsmiths worked in the colonies

³ Examples of rifled matchlocks do exist. Rifled wheellocks are far more common as they were so often used for hunting. Halbrook, Stephen. *America's Rifle: The Case for the AR-15*, pg. 101: "Around 1450, a German gunsmith cut spiral lands and grooves inside a gun barrel...such guns were called riffeln"

⁴ Information from the exhibition narrative. Houze, Herbert G. Co-Curator. "Art of the Hunt: Decorated European Sporting Arms from 1500-1800." Exhibition. Houston Museum of Natural Science, 2019.

alone.⁵ They, as private citizens, were responsible for making guns for both the military and civilians. While the standard infantry arm during the American Revolution was a smoothbore (no rifling) musket, there were some regiments during the War that used a common civilian firearm at the time, the American long rifle (**Exhibit H**). The long rifle was a modified design from the German jaeger (hunting) rifle that tended to have a longer barrel and a smaller caliber than its German counterpart. This civilian rifle was the far superior firearm in terms of accuracy compared to the inaccurate military smoothbore musket. However, because of the type of projectile employed at the time – a round musket ball – the process to load was slower for rifles because the ball had to fit snugly within the lands and grooves of the rifling, therefore it was not feasible for expansive military adoption.⁶ Examples of long rifles, however, were made with two barrels that would swivel to compensate for that limitation (**Exhibit I**).⁷ The long rifle in the colonies served as a multi-purpose tool. It was capable of being used for hunting, self-defense, and target shooting. Important to note though that unless being made for large-scale military adoption, such as the smoothbore musket, and/or produced with the use of parts kits ordered from overseas, civilian arms could be made at the request of individuals or in small runs.

Target shooting was a part of American culture before the formation of the United States with colonists taking part in competitions known as “Rifle Frolics.” In fact, David Ramsay in his “History of the American Revolution” (1789) spoke about the Battle of Bunker Hill (1775). He wrote, “None of the provincials in this engagement were riflemen, but they were all good marksmen. The whole of their previous military knowledge had been derived from hunting, and the ordinary amusements of sportsmen. The dexterity which by the long habit they had acquired in hitting beasts, birds, and marks, was fatally applied to the destruction of the British officers.”⁸ This tradition has continued throughout

⁵ Moller, George D. *American Military Shoulder Arms: Volume I*. University of New Mexico Press, 2011. P.107

⁶ Until the development of a successful conically shaped bullet (rather than a round musket ball) by Claude Etienne Minie and modified by James Burton at Harpers Ferry, rifling was expensive and slow to load. For a round ball to effectively spin in rifling, it had to fit perfectly which slowed the loading process. However, it was perfect for target shooting as well as hunting and specialized military use. Since tactics by the military were still shoulder-to-shoulder fighting, accuracy was not of prime importance, so militaries used smoothbore (unrifled) barrels for their standard equipment.

⁷ Examples can be found in the Cody Firearms Museum.

⁸ Halbrook, Stephen. *The Founders of the Second Amendment: Origins of the Right to Bear Arms*. Pg. 96-97

American history, especially after the Civil War. For example, the National Rifle Association was founded by Union officers in 1871, and its core purpose was “to promote and encourage rifle shooting on a scientific basis.” What resulted was the proliferation of international shooting competitions.⁹ Another example is the Olympic sport of Biathlon, a sport which involves both skiing and target shooting, dating to 1767 in Europe. It was initially created for government use in places like Norway. That purpose persisted for centuries, even after becoming an international sport. In the 1930s, Finnish troops still used skis and rifles for patrol. Until recently, the firearms used in Biathlon and other disciplines of the shooting sports, often used modified versions of centerfire NATO cartridge firearms **(Exhibit J)**.¹⁰ By the nineteenth century, progress on manufacturing processes allowed more firearms of more varieties to be available to the U.S. government as well as civilians. Many repeaters of all sorts produced during this century came in specific models indicating sporting vs military variants.¹¹

The line between military and civilian arms was certainly blurred at the founding of the country. While the military, as previously referenced, sometimes utilized superior civilian arms, civilians could also possess guns that were traditionally associated with the military, such as cannons.¹² That blurred line also extended to the role of the civilian and soldier. In the colonies and in early America, certain citizens were required to serve in their militias with firearm and ammunition requirements and some soldiers carried their personal firearms into battle. By the American Civil War, it was not unheard of for soldiers to privately purchase firearms that the U.S. government had not adopted or did not issue to them for use in battle. After the war, even military issue weapons that were used in war were often sold on the civilian market. After the Civil War, soldiers could buy their firearms and many dealers and distributors sold the surplus in mass in their catalogs or at stores for even lower prices. According to Springfield Armory National Historic Site,

⁹ The National Rifle Association of America was founded after the National Rifle Association in the United Kingdom (1859). <<https://home.nra.org/about-the-nra/>> Accessed June 15, 2023

¹⁰ An example of a centerfire modified firearm can be found in the Cody Firearms Museum.

¹¹ Flayderman, Norm. *The Flayderman's Guide to Antique American Firearms...and their Values*. 9th Ed (2019). This book is considered the gold standard in the evaluation of antique American made firearms. It provides not only firearms organized by manufacturer but also by type, such as repeater, sporting, military etc. Here is just one example: pgs. 694-695

¹² Moller, George D. *American Military Shoulder Arms: Volume 1*. University of New Mexico Press, 2011. P.107

“many thousands [of] cheap surplus weapons were released into private hands through General Orders 101, providing rifles, pistols, carbines, and muskets that found their ways into the hands of Americans in the decades following the Civil War.”¹³ The tradition of selling military arms to civilians continues today with firearms such as the Springfield Model 1903 bolt action rifle and even with semi-automatics such as the M1 Garand rifle, the M1 carbine, and the Model 1911 pistol.¹⁴

To summarize, there has always been an ebb and flow of civilian and military firearms for centuries, some with clearer lines than others. It is unfair to suggest that historically a gun at the time of its use would have been completely understood as only for war or sport because there was such interchangeability.

S2.2: TIMELINE OF MAJOR INVENTIONS

This timeline is not comprehensive of every major incremental development in firearms and ammunition history; however, it highlights the evolution in technology relevant to this case. Importantly, many of the greatest technological leaps occurred in the first three hundred years of development, with the initial invention of many technologies that are still employed in modern firearms. Later innovations, even into the mid-twentieth century, have tended to be more gradual refinements.¹⁵ Terms in bold that are not defined in the terminology section can be found in **Exhibit B**.

- Ca 1000: Invention of the **Fire lance**.
- 1267: English academic, Roger Bacon records **gunpowder**. *Note: Gunpowder recipes and use predates this in China by centuries*
- Ca 1280s **Hand cannons** were in use in China (surviving example exists)
- 1300s: The earliest examples of **breechloaders** appear in large guns that are set up on a device to swivel.
- Ca 1400: The appearance of the first true ignition system, the **matchlock**
- 1450: **Rifling** is invented
- Ca 1500-1510: The **wheellock** is invented.

¹³ Springfield Armory details this information here <<https://www.nps.gov/spar/learn/historyculture/a-springfield-rifle-musket.htm>> Accessed June 15, 2023

¹⁴ Today, postwar weapon surplus guns including several semi-automatic firearms such as the M1 Garand are sold through the Civilian Marksmanship Unit <<https://thecmp.org/sales-and-service/1911-information/>> <<https://thecmp.org/sales-and-service/services-for-the-m1-garand/>> Accessed June 15, 2023

¹⁵ This timeline was drawn largely from the one organized, reviewed, and exhibited at the Cody Firearms Museum.

- 1620-1625: True **flintlock** is invented.
- Ca 1640: Bayonets are introduced.
- Ca 1680: The first known **revolver** is created, and the cylinder is self-rotating.
- 1714: English ordnance begins buying uniformed parts for muskets
- 1718: The Puckle gun is invented. It is a flintlock revolving cannon patented by British inventor, lawyer, and writer James Puckle
- 1730s: American **long rifles** were made by German immigrants.
- 1774: Patrick Ferguson invents a **breechloading** flintlock rifle
- 1791: Ratification of the Second Amendment
- 1800: Discovery of Fulminates by Edward Charles Howard that will be used in **percussion** ignition firearms.
- 1808: Early form of self-contained cartridge is invented by Jean Samuel Pauly
- 1811: John Hall patents a **breechloading** rifle – a key step in the evolution of interchangeable parts
- 1818: **Percussion cap** is invented; Wheeler and Collier flintlock **revolver** is ordered in bulk.
- 1825: **Percussion** ignition becomes more common; Johann von Dreyse experiments with his needle gun (an early **bolt action**)
- 1829: True **centerfire** is invented by Clement Pottet
- 1835: Colt's first **revolver** patent in England; 1st telescopic sight (Morgan James out of Utica, NY)
- 1846: Claude Etienne **Minie** develops successful conically shaped projectile
- 1847: Walter Hunt patents a tubular **magazine**
- 1854: Smith & Wesson patent the **lever action**
- 1855: Rollin White patents a box **magazine**
- 1857: **Rimfire metallic cartridges** are developed by Smith & Wesson
- 1860: Spencer repeating rifle and Henry **lever action** rifle is sold
- 1862: Gatling Gun is patented
- 1864: Robert Wilson patents a detachable **magazine**
- 1865: Springfield armory designer Erskine Allin converts rifled muskets to **breechloaders**; Winchester becomes its own company
- 1873: Colt introduces their Model 1873 **single action revolver**
- 1877: Colt introduces their **double action revolver**
- 1884: **Smokeless powder** invented; **slide action** is popularized
- 1885: Hiram Maxim develops a **machine gun**
- 1886: **Box magazine** on the Mannlicher **bolt action**
- 1893: **Semi-automatic** pistol with detachable **magazine** introduced by Hugo Borchardt
- 1895: Colt Browning **machine gun** invented
- 1898: Antique Firearms Cutoff date – firearms, other than machine guns made before 1898 are not federally firearms. This designation was established by the Gun Control Act of 1968
- 1899: Arthur Savage begins selling lever actions with rotary **magazines**
- 1902: Hiram Percy Maxim invents the **silencer**

- 1905: John Moses Browning's Model 1905 is important development in what becomes the Colt Model 1911, chambered in his designed caliber the .45 ACP
- 1918: Browning **Automatic** Rifle and Thompson **submachine gun** are developed
- 1934: The National Firearms Act
- 1936: Adoption of the M1 Garand **Semi-automatic** rifle
- 1942: M1 Carbine adopted with the .30 M1 carbine cartridge
- Ca 1944: The STG 44 becomes the 1st production **assault rifle**.
- 1951: AKM **assault rifle** enters service
- 1956: Eugene Stoner develops the AR-10, Jim Sullivan refines it to become the AR-15
- 1959: Armalite sells rights to Colt to produce AR-15
- 1964: M16 adopted by US Military; Colt delivers AR-15s to the commercial market
- 1968: Gun Control Act
- 1970: HK VP 70; 1st **semi-automatic** polymer pistol released
- 1986: Glock **semi-automatic** polymer pistol is sold in United States; Hughes Amendment

SECTION 3: 600 YEARS OF HISTORICAL DEVELOPMENT OF FIREARM TECHNOLOGIES GENERALLY ASSOCIATED WITH ASSAULT WEAPONS BANS AND MAGAZINE LIMITATIONS

There are many terms used to define rifles, pistols, and shotguns regulated in assault weapons (firearms) bans. Regardless, the technologies banned by the statutes represent incremental change in technological innovation over the past 600 years.

S3.1: GENERAL HISTORY OF REPEATERS

As will be seen below, New Jersey's legal limit of ten rounds in an ammunition magazine is historically arbitrary, particularly for the time frame being discussed.¹⁶ The capacity for repeaters and magazine-fed repeaters were not fixed to one number, rather the number was constantly changing depending on design. Even model variations, such as a Winchester Model 1866, feature a range of different capacities based on the size of the magazine, the barrel, the caliber etc. Therefore, a ten-round ammunition capacity is not notable historically. As previously mentioned, I define a repeater as a firearm of any type that can fire multiple rounds before having to manually reload.

The concept of a repeater dates to the earliest technology of firearms. Hand cannons even came in multi-barrel variations (**Exhibit K**). While some repeaters were employed on the battlefield, they would not be widely popular for use in war until the late nineteenth century. That did not mean, however, that innovation in repeating technology was stymied. In fact, it was quite the opposite. Without the confines of wartime tactics and budget, many repeating firearms were commissioned by civilians who utilized them. The simplest method of producing arms capable of firing more than one round without manually reloading initially was to fit a firearm with more than one barrel. However, due to weight limitations, gunmakers began experimenting with other means of producing repeating arms during the sixteenth century. One of the first methods attempted involved superimposed

¹⁶ The federal government itself did not make this distinction until the 1990s. This date is referencing the Public Safety and Recreational Firearms Use Protection Act (1994). Additionally, there are many resources that can showcase the number of repeaters available in this time frame in the United States, but the place that aggregates them the best is Flayderman, Norm. *The Flayderman's Guide to Antique American Firearms...and their Values*. 9th Ed.

loads, which were successive charges of powder and ball on top of each other that were separated by wadding or the projectile itself in one barrel. They were fitted with locks that either had multiple cocks and pans or a single lock that could slide upon a rail. One such example was a sixteen-shot firearm made in 1580 (**Exhibit L**).¹⁷

By the 1630s, a Dutch gun making family, Kalthoff (also spelled in some sources, Calthoff), began experimenting with a design that allowed up to fifteen shots to be fired in rapid succession. It utilized a tubular magazine located in a pistol or rifle stock to hold powder and balls (**Exhibit M**)¹⁸ This system was so innovative it was reproduced and modified for over 150 years. According to late historian Herbert G. Houze, “their longevity is perhaps best demonstrated by the fact that Admiral Horatio Nelson owned a repeating flintlock pistol of their basic design, as did President Thomas Jefferson.”¹⁹ Also, by the mid-seventeenth century in Italy, other magazine-fed repeaters were being developed. According to the Royal Armouries (Leeds), an early example can be found at the Musée de l'Armée which was made by Giacomo Berselli of Bologna in the late 1660s.²⁰ However, more well-known is the Lorenzoni of Florence. The firearm is a magazine-fed repeater that came in pistol and rifle form. This design was copied and modified by numerous designers after its invention with various configurations and magazine capacities (**Exhibit N**). In addition to magazines, revolving technology was also being developed during this time. The Dafte revolver, for example, had a “single fixed barrel mounted to a central arbor upon which a cylinder of chambers rotates.” (**Exhibit O**)²¹

In 1722, Boston designer John Pim demonstrated a firearm that was alleged to have been “loaded but once” and “discharged eleven times following with bullets, in the space

¹⁷ This firearm was on display at the National Firearms Museum’s location in Missouri. Winant, Lewis. “A 16-Shot Wheel Lock,” *America’s 1st Freedom* (2014).

¹⁸ Houze, Herbert G. Co-Curator. “Art of the Hunt: Decorated European Sporting Arms from 1500-1800.” Exhibition. Houston Museum of Natural Science, 2019.

¹⁹ Ibid

²⁰ For more information, visit: <https://royalarmouries.org/stories/our-collection/the-christmas-connection-to-captain-souths-lorenzoni-pistol-our-collection/> Accessed June 15, 2023

²¹ Ferguson, Jonathan. “An Important Early Self-Rotating Revolver c. 1680, possibly by John Dafte.” *The Antique Arms Fair at Olympia London*. Pg. 30

of two minutes.”²² Additionally, a Boston gunsmith named Samuel Miller advertised for a twenty-shot repeater.²³

In 1724, another designer Emmanuel Wetschgi of Augsburg advertised his flintlock magazine firearm in a handbill (**Exhibit P**). According to Houze:

“Not only did he describe his design’s advantages and the ease with which it could be used, he also included an engraving showing one of his pistols being fired. This image, which is believed to represent Christian III, Count Palatine of Zweibrucken with the inventor by his side holding a sporting gun built on the same system...More importantly, it also incorporates what may be the first true advertising slogan...’What other pistols can shoot multiple rounds on one loading as accurately, rapidly, and as far, as today’s Wetschgi?’”²⁴

Another example of the Lorenzoni style was a firearm designed by British gunsmith, John Cookson in the late seventeenth century (**Exhibit Q**). A gunmaker in Boston, also named John Cookson – it is not clear if this person was the same Cookson from England, a relative, or a coincidence – published an ad in the *Boston Gazette*, in 1756, advertising a nine-shot repeating firearm (**Exhibit R**). Around the same time a Cookson-type twelve-shot repeater was made by gunmaker John Shaw.²⁵ Another example from the 1750s in America is the Belton repeating fusil. This gun was invented by Joseph Belton around 1758 (**Exhibit S**). Not a magazine repeater like the Lorenzoni, the Belton utilized superimposed loads. Notably, he petitioned the Continental Congress during the American Revolution to adopt his firearm. In 1777, Belton showcased a musket that shot sixteen rounds at once in front of General Horatio Gates, Major General Benedict Arnold, and scientist David Rittenhouse. The observers wrote on July 10, 1777:

“Having Carefully examined M. Belton’s New Constructed Musket from which he discharged Sixteen Balls loaded at one time, we are fully of Opinion that Muskets

²² Kopel, David and Joseph Greenlee. “The History of Bans on Type of Arms before 1900.” *Journals of Legislation*, page 38.

²³ Ibid, 38

²⁴ Houze, Herbert G. Co-Curator. “Art of the Hunt: Decorated European Sporting Arms from 1500-1800.” Exhibition. Houston Museum of Natural Science, 2019.

²⁵ An example of this firearm can be found in the National Firearms Museum <<https://www.nramuseum.org/the-museum/the-galleries/the-road-to-american-liberty/case-22-the-paper-cartridge/cookson-volitional-repeating-flintlock.aspx>> It is also discussed here in this site linked directly from the Royal Armouries: <<http://firearmshistory.blogspot.com/2014/02/the-cookson-repeater.html>> Accessed June 15, 2023

of his Construction with some small alterations, or improvements might be Rendered, or great Service, in the Defense of lives, Redoubts, Ships & c. & even in the Field, and that for his ingenuity & improvement he is Intitled to a handsome reward from the Publick.”²⁶

Washington ordered one hundred Belton firearms for use in the Continental Army. However, this order was canceled. Surviving and modified examples of the Belton design were made by his partner in the 1780s, including artifacts at the Royal Armouries in Leeds, that include a detachable magazine variation. One also has a sliding spout meant for port fire – a slow-burning ignition system. When locked into place, the user would essentially ignore the main trigger, frizzen, and cock and just pull the lock backwards one stage at a time, making the firearm, while not strictly a semi-automatic, have a similar rate of fire to that of a double action.²⁷ Around 1779, the Girardoni (also spelled Girandoni) air rifle was developed. It was a repeating arm that could fire twenty-two rounds from a tubular magazine (**Exhibit T**).²⁸ The magazine itself was quick to reload with the help of speed loading tubes. Speed loading tubes or speed loaders are essentially a device through which you can load ammunition quickly into a magazine or a firearm. There are several ways this can be employed. Additionally, the Girardoni could fire forty rounds before needing air to be pumped again.²⁹ The Girardoni was used by Meriwether Lewis on the Lewis and Clark Expedition (1804-1806). Over 1,000 Girardonis were made for service with the Austrian

²⁶ Kopel, pg. 38

²⁷ The Royal Armouries has two of these detachable magazine Belton repeaters. It can be seen here: <<https://www.youtube.com/watch?v=-wOmUM40G2U>> Accessed June 15, 2023. The description of the operation of fire is from a conversation with Keeper of Arms, Jonathan Ferguson.

²⁸ Kopel, David. “The History of Firearms Magazines and Magazine Prohibitions.” Albany Law Review, Vol. 88, 2015, pg. 853

²⁹ Kopel, David & Joseph G.S. Greenlee. “The History of Bans on Types of Arms before 1900. Pg. 40.

military, but light weight examples were allegedly produced in sporting variations.³⁰ This design also was copied by gunmakers around the world.³¹

Around the ratification of the Second Amendment, other repeaters were being developed throughout the world, including multi-barrel firearms in which all barrels could fire at once, such as the Nock Volley gun and Duck's Foot pistol (**Exhibit U**).³² There is also a surviving example of a firearm commissioned by an individual around the end of the 1700s. It is a fourteen-barrel double Nock volley gun style rifle. Each set of seven barrels has its own lock plate and trigger. To better facilitate loading, the firearm came with a speed loader that allowed the user to pour the charge into a small device that the user could then pour down seven barrels simultaneously. This firearm was a sporting arm. To facilitate accuracy at such a large size, it has a hand rest forward of trigger, under the barrels. In the event the user only wanted to use one set of seven barrels, he had a replaceable stock made with one lock plate and trigger.³³ In America, Joseph Gaston Chambers devised a repeating musket that could fire, according to him, twenty rounds a minute (**Exhibit V**). He approached the U.S. War Department in 1792 with his invention. The Secretary of War, Henry Knox, was interested in finding a firearm that would supply more power and requested that one of Chambers' firearms be acquired for testing. A demonstration was set up at Alexander Hamilton's "Seat" on the Schuylkill.³⁴ Furthermore, Chambers petitioned

³⁰ For more information on Lewis and Clark and the Girardoni, the most comprehensive research on the Girardoni air rifle was done by scholar Michael Carrick. His research is footnoted in this summary article of the Lewis and Clark firearms that can be found here:

<http://www.westernexplorers.us/Firearms_of_Lewis_and_Clark.pdf> Accessed June 15, 2023, Additionally, Ian McCollum, one of the foremost authorities on firearms technology in the United States, has done several videos and articles about the firearm. This is one article he wrote <<https://www.forgottenweapons.com/rifles/girardoni-air-rifle/>> Accessed June 15, 2023. A surviving example of a Girardoni can be found: <<https://www.nramuseum.org/guns/the-galleries/a-prospering-new-republic-1780-to-1860/case-8-romance-of-the-long-rifle/girardoni-air-rifle-as-used-by-lewis-and-clark.aspx>> Accessed June 15, 2023, Rock Island sold a sporting variation in 2018: <<https://www.rockislandauction.com/detail/75/3293/girardoni-system-repeating-air-gun>> Accessed June 15, 2023

³¹ An example of a Russian copy of a Girardoni Rifle can be found in the Cody Firearms Museum

³² An example of the Duck's Foot Pistol can be found here: <<https://www.recoilweb.com/ducks-foot-pistol-old-school-172784.html>> Accessed January 31, 2023. An example of the Nock Volley Gun can be found here by British scholar Matthew Moss <https://armourersbench.com/2020/01/12/nock-volley-gun/> Accessed June 15, 2023

³³ McCollum, Ian. Forgotten Weapons: <<https://www.youtube.com/watch?v=ivdlcHUwaEw>> Accessed June 15, 2023

³⁴ Fagal, Andrew J.B. "The Promise of American Repeating Weapons, 1791-1821. *Age of Revolutions*. Fagal is the Associate Editor at Princeton University's Papers of Thomas Jefferson.

Thomas Jefferson for help spreading the word of his invention. To which Jefferson referred him to the U.S. Patent Office.³⁵ His invention was not adopted initially with concerns for structural stability, but his repeating muskets, pistols and seven-barreled swivel guns were adopted by the U.S. Navy and Pennsylvania for the War of 1812. Between September 1813 and September 1814, Philadelphia arms makers would produce at least fifty-three seven-barreled swivel guns that could fire two-hundred bullets a piece, two hundred repeating muskets, and one hundred repeating pistols. Outside of the United States, European countries were also interested in his inventions.³⁶ Another repeater designed in 1821 was known as the Jennings repeating flintlock. It was capable of firing twelve rounds before having to reload (**Exhibit W**).³⁷

The foregoing demonstrates that numerous types of repeating firearms existed leading up to, around, and directly after the time of the ratification of the Second Amendment, which in some cases, had direct ties to Founding Fathers. As was typical of the era, these were often made by private gunsmiths and sometimes individually commissioned. During the Founding Era and after, unless employed for military purposes with the need for quantity, firearms at large were not produced in volume as they would have been by the late nineteenth century after great shifts in the industrial era. We also know that Americans were likely aware of various European innovations, since surviving examples in America are sometimes modeled after those firearms, from the simple musket that supplied much of the US military during the American Revolution to repeaters such as the Cookson, following a Lorenzoni magazine style. Overseas travel and the exchange of information was also common. For example, as Minister of France, Thomas Jefferson traveled overseas in the 1780s, where he learned about the concept behind interchangeable parts. Notably, even to some of the less successful firearms designs with flaws, imperfections, and issues, it is interesting that while the Founding Fathers were aware of them, manufacturers could continue to produce those designs, to my knowledge, without regulations, unlike the fire safety laws that were enacted to regulate gunpowder.

<<https://ageofrevolutions.com/2016/10/20/the-promise-of-american-repeating-weapons-1791-1821/>> June 15, 2023

³⁵<<https://founders.archives.gov/?q=Joseph%20chambers%20bursteds&s=1111311111&sa=&r=1&sr=>> Accessed June 15, 2023

³⁶ Fagal

³⁷ Flayderman, Pg 683

It is also interesting to note that the reason we are aware of these firearms, in most cases, is that examples have survived thanks in large part to museums and private collectors. In fact, gun collecting dates to the 1600s. While the earliest firearms collector is credited to be King Louis XIII of France, firearms were not only owned by royalty or the aristocracy. For example, in 1666, according to Houze, it was recorded that the merchant, Alexandra Delamarre, had put together a collection numbering some thirty pieces. Gun collecting continued to grow ever more popular during the eighteenth century and some truly large collections were assembled. For example, one collector, Joseph von Dufresne of Munich, Germany, at the time of his death in 1768 possessed 277 pistols, 457 long arms, plus crossbows and other items.³⁸ Even in the colonies, estate sales featured repeating firearms, including an advertisement from South Carolina (1736) (**Exhibit X**).³⁹

Importantly, this meant that those of the Founding Era were aware of significant innovations in firearms technology over time and it's reasonable to expect that innovation to continue into the future – the most notable example being the major difference in technology between the military smoothbore muskets used by most soldiers during the American Revolution and the far more advanced American long rifles owned by the American colonist during that same time frame.

Prior to the American Civil War, there were many makers and manufacturers of repeating firearms, however, the tradition of individual gunmakers was still prominent. As manufacturing processes advanced, these concepts evolved into more standard repeaters produced in greater quantities. The transition of firearms being made by private gunmakers increasingly shifted to factories by the mid-nineteenth century. Inline manufacturing, interchangeable parts, and mass production impacted not only the types of firearms that were available, but also quantity and quality. While repeating firearms, magazine-fed or not, exceeded ten-rounds centuries prior, the number of distinct types of repeaters in general by the middle of the nineteenth century was staggering.

With these industrial changes, repeaters continued to evolve as they had for centuries. Around 1814, another step in revolving technology appeared with the Collier flintlock (later percussion) revolving rifles, pistols, and shotguns (**Exhibit Y**). Decades

³⁸ Houze, Herbert G. Co-Curator. "Art of the Hunt: Decorated European Sporting Arms from 1500-1800." Exhibition. Houston Museum of Natural Science, 2019

³⁹ The South Carolina Gazette. Number 125. June 19, 1736.

later, pepperbox pistols, a revolving pistol with multiple barrels that were manually rotated on a central axis, were popular in the United States by the 1830s, some were even taken out west with California gold miners (**Exhibit Z**). One maker of pepperboxes alone, Ethan Allen, between the 1840s and 1850s made over forty variations of this style of firearm.⁴⁰ While many pepperbox pistols typically fired four to six shots, some were capable of firing twelve, eighteen, or twenty-four rounds.⁴¹ It becomes difficult to quantify the number of repeaters on the market though because makers were so plentiful. In 1836, a year before Samuel Colt's first patent in England of his revolving mechanism, the patent process was standardized through the United States Patent Act. That year, Samuel Colt took out two patents for five or six-shot revolving rifles and pistols (**Exhibit AA**). As a result, he essentially owned the legal right to produce the revolver until the patent expired in the mid-1850s. This Act created a flurry of production, innovation, and design especially towards repeaters and magazines to varying degrees of success. The fact though that so many people were trying to design the next great repeater shows the desire to capitalize on this technology.⁴² It should be noted, however, that while 1836 was an important year, the recognition of the importance of patents to support technological innovation dates to the Constitution (See Article I; Section 8). As Secretary of State, Jefferson himself was involved in the earliest patent process. All this further demonstrates the expectation of the Founding generation that technological innovation was not only likely but to be encouraged.

Regardless of whether or not a design was successful that desire to innovate has always been present. One such attempt was in 1851, when Perry W. Porter developed a nine-shot repeating rifle and pistol that instead of a traditional cylinder as in Colt's design, the cylinder is seated in a way that the chambers point towards the shooter and anyone nearby (**Exhibit BB**).⁴³ Another attempted design, in which a proof of concept prototype survives, is the Lindner patent of 1856, which is a rifle with a six-round cylinder and nine-

⁴⁰ Flayderman, pg. 56-61

⁴¹ Kopel, pg. 854. Additionally, pinfire pistols and long guns can be found in museum collections with capacities greater than ten rounds.

⁴² Examples of these patented repeaters include Volcanic lever actions, the Jarre Harmonica pistol and rifle, Porter and Genhart turret rifles, Josselyn Chain Revolvers etc. More successfully were revolvers and repeaters by Smith & Wesson, Remington, Merwin & Hulbert, Henry, Winchester etc.

⁴³ The 1837 Cochran turret rifle operated off a similar construct with a horizontally seated cylinder.

round tubular magazine. The gun design could hold multiple magazines at a time that could extend the length of the barrel (**Exhibit CC**).

Successful innovations obviously did occur as well. Horace Smith & Daniel Wesson developed a self-contained metallic cartridge to pair with a revolver they designed and would sell when Colt's patent expired in the 1850s. The invention of their revolver coupled with a patent by designer Rollin White to have a bored through cylinder, allowing the revolver to be loaded from behind, greatly increased the speed of reloading the firearm (**Exhibit DD**). Additionally, in 1854, Smith and Wesson patented a lever action design called the Volcanic, which was based on a few earlier designs in the 1840s and would serve as the basis for the Winchester lever actions (**Exhibit EE**). This design would be modified by Benjamin Tyler Henry into the Henry Model 1860 lever action rifle (**Exhibit FF**). The next iteration of lever action was the Winchester Model 1866 (**Exhibit GG**). The main innovation with this gun was Nelson King's Patent in May 1865, that allowed the firearm to be loaded from the receiver, a faster and superior design to Henry in which the user had to essentially load the tubular magazine from the muzzle.

Winchester was not the only manufacturer of repeating firearms in the mid to late nineteenth century. Other companies were producing competitive repeaters, such as the Evans Repeating Rifle, which was made between 1873 and 1879. Approximately, 12,200 were made and they came in three variations, Sporting (approximately 4,350 made), Military (approximately 3,200), and Carbine (not specified as either sporting or military, approximately 4,700 made). The Evans held magazine capacities at twenty-eight, thirty-four, and thirty-eight rounds (**Exhibit HH**)⁴⁴ The Evans as well as other companies such as the Spencer Repeating Rifle, Fogerty Repeating Rifle, Adirondack Firearms, Bullard Repeating Arms, Burgess Gun, and the Whitney Arms Companies also were making repeaters. However, some names are lesser known, partially because Winchester realized the value in their designs and the threat of them as a competitor, so they acquired the companies.⁴⁵ Other major manufacturers, such as Marlin, quickly popped up as well by the 1890s as a direct competitor to the Winchester lever action as did Savage firearms, including the Model 1899, equipped with a rotary magazine (**Exhibit II**). In all, there were

⁴⁴ Flayderman, pg. 694-695

⁴⁵ An entire exhibit at the Cody Firearms Museum is dedicated to the many repeating arms companies that Winchester acquired. Examples are archived in the Winchester Arms Collection.

over one hundred manufacturers or makers in the United States alone producing some type of repeating firearm leading up to and decades after the Civil War.⁴⁶

The experimentations in design ultimately led to incremental improvements on repeating technology, culminating in the design of automatic and semi-automatic technology. Automatic technology operation involves pressing a trigger to fire continuously until the user releases the trigger, the firearm runs out of ammunition, or the firearm malfunctions. Semi-automatic operation involves pressing a trigger to fire one round, eject a spent case, and load another to be fired on the next trigger pull. Today, most firearms are semi-automatic rifles, pistols, or shotguns. Semi-automatic technology was developed in the 1880s around the same time as automatic technology. Mannlicher is generally attributed to creating the first semi-automatic rifle, although his initial design was far from successful; handguns followed shortly after. The first mass produced semi-automatic pistol was the Hugo Borchardt designed C-93 with detachable eight-round magazine (**Exhibit JJ**). The Mauser C-96 (**Exhibit KK**) followed, as did John Moses Browning's Model 1899/1900 pistol, which by 1905 would serve as the basis of the iconic Colt Model 1911 semi-automatic pistol (**Exhibit LL**).

S3.2: FEATURES

Assault firearm bans and magazine limitation statutes often concern themselves with firearm features, such as detachable magazines, various types of grips, barrel shrouds, and threaded barrels. These features themselves have their own long history as they have often served to mitigate side effects from shooting firearms, including aiding in stabilization and individualized fit, as well as flash and sound suppression, which historically have had purposes in both sport and defense.

S3.2A: DETACHABLE MAGAZINES

As this report has previously cited, magazines of many types existed as far back as the 1600s. They also come in many forms, such as tubular, box, rotary, etc. Within these subcategories, they can either be fixed or detachable. For example, more than half a century after Girardoni's tubular magazine, Walter Hunt received a patent for a fixed tubular

⁴⁶ Flayderman, Chapters V: A-F pages 50-299; Chapter VII: A, B, C Pages 351-387; Chapter VIII: A Pg458-524; Chapter XIII pages 691-697; Chapter XV: pages 709-733

magazine in the 1840s to pair with his invention, the Hunt Volitional rifle, which is the older direct ancestor to the Winchester lever action rifle (**Exhibit MM**).⁴⁷ On the other side, Christopher Spencer developed a tubular magazine in the butt stock that was detachable in 1860 (**Exhibit NN**). Beyond tubular magazines, there were other designs such as the Genhart turret rifle, from the 1850s, that had a detachable circular magazine with an externally visible shot/round counter and the Jarre Harmonica Pistol and Rifle with a detachable horizontally seated magazine that slides after each round is fired like a typewriter (**Exhibits OO & PP**)

In terms of box magazines specifically, Rollin White patented one in 1855 (**Exhibit QQ**).⁴⁸ A detachable version was patented in 1864 by Robert Wilson (**Exhibit RR**).⁴⁹ And a vertically stacked box magazine was patented by James Paris Lee in 1879 which was applied to several rifles including the Mannlicher Model 1886 bolt action rifle (**Exhibit SS**).⁵⁰ Even the earliest semi-automatic handguns utilized either fixed or detachable magazines. The Mauser C-96 had a fixed one, and the Borchardt C-93 detachable.⁵¹

S3.2B: GRIPS/BARREL SHROUD

The concept of a stabilizing entity to help not only simply hold the firearm but also do so with maneuverability and accuracy dates to the earliest arms and sporting guns. For example, early target shooting competitions relied on it. Schuetzen, a sport dating to the 1600s that continues today, incorporates elaborate molded cheek pieces and palm rests. German Frei pistol of the nineteenth and twentieth centuries, essentially do the same. While these customizations may not fit the typical definition of a pistol grip or thumbhole stock, the intent is similar (**Exhibit TT**)

The simplest form of a stabilizing device is the *barrel shroud*, which is essentially just a forearm. The purpose of a barrel shroud is to prevent “burning the bearer’s hand.” By that definition, any firearm with a full-length stock has a barrel shroud, such as an eighteenth-century Brown Bess or early single shot pistols.

⁴⁷ Hunt, Walter. US Patent 6663A (1849)

⁴⁸ White, Rollin. US Patent No 12648 (1855)

⁴⁹ Wilson, Robert. US Patent No 45105 (1864)

⁵⁰ Lee, James Paris US Patent No 221328 (1879)

⁵¹ Kopel, 857 referencing *Standard Catalog of Firearms*. (2014), Gun Digest Books, pg. 708-709

Stock design in and of itself necessitates a *pistol grip*. These grips date to the 1700s. When taken literally, single shot flintlock and later percussion pistols sometimes would have the option to attach a removeable stock. When assembled pistols become long guns and the grip from the pistol serves as the stabilizing device. This trend of detachable stocks continued with repeating arms, including several models of Colt revolvers, in the civilian and military market. Even semi-automatics such as the Borchardt C93 and Mauser C96 had detachable stock options. If a user did not have one of these models, universal holsters to convert a pistol to a rifle with a detachable stock existed (**Exhibit UU**). On firearms without detachable stocks, pistol grips appear on all variances of firearm actions. Standard rifles and shotguns would often have some sort of partial grip. Full pistol grips even made their way on machine guns by the end of the nineteenth century, including the Colt Model 1895, French Chauchat (1907) and several Maxim models. Submachine guns like the Thompson (1918) had them as well. Pistol Grips also appeared on other National Firearms Act firearms, outside of machine guns, such as Any Other Weapons, like the Ithaca Auto & Burglar (1922), the Harrington & Richardson Handy-Gun (1921), and the Marble Game Getter (1908). The design continues to be used far into the twentieth century, including other semi-automatic firearms such as the M1A1 Paratrooper Carbine designed with not only a pistol grip but also folding stock (**Exhibit VV**).

Forward grips, on which the user holds a grip forward of the breech, have also been around since the late eighteenth century. The previously referenced fourteen-barrel firearm (ca 1795) has a forward grip. Additionally, another example is the French Magot rifle from the 1880s. Possibly one of the only copies of this gun is in the Cody Firearms Museum (**Exhibit WW**).

While not technically a grip, *thumbhole stocks* serve a similar purpose. It is more difficult to historically trace, but their regulation has had a deep impact on sporting and Olympic firearms in the modern era. Certain Olympic rifles feature thumbhole stocks, including several models of Winchester, dating to the 1950s. This type of concept or technology is a very prominent shooting sports feature.

S3.2C: FOLDING/TELESCOPING STOCK

The Cody Firearms Museum has a folding stock snaphaunce blunderbuss that dates to between 1650-1700 (**Exhibit XX**). With early firearms, folding or adjustable stocks are

not necessarily common because pieces in the civilian world were made by artisans prior to mass production. However, the appearance of detachable stocks – converting a pistol to a rifle/carbine – appear in the 1700s on flintlocks and continue to be incorporated on percussion, revolver, and semi-automatic guns. As guns were mass produced in scale, various models were often made, such as a Junior or Ladies rifle, to provide a different size option for the size or ability of the sport shooter. The flexibility of stock size in a telescoping stock is very important in the civilian market where comfort and having firearms suited for the individual are preferable and feasible. In the early 1900s, and possibly earlier, consumers would be relegated to finding their correct stock size using Try Guns, which were carried by salesmen to allow the consumer to adjust the stock to fit them to see what size a given person needed. Two examples in the Cody Firearms Museum collection are the Winchester Model 12 and LC Smith Try Guns (**Exhibit YY**). Once an appropriate size was determined, the firearm would be made with a fixed stock. Folding stocks do make appearances in the military sphere with the M1A1 Paratrooper Carbine model as well as several submachine guns.

S3.2D: FLASH SUPPRESSOR/THREADED BARREL

While the above concerns itself more with the fit of a firearm and how to stabilize it, other features exist to mitigate the negative side effects of shooting firearms.

Flash suppressors at their core are meant to reduce muzzle flash. The issue of a flash either giving away one's positions or temporarily distorting the vision of the user, dates to the earliest technology of firearms. Firearms, until the development of percussion ignition in the early nineteenth century, made use of an exposed flame at the breech of the gun. Hand cannons and matchlocks used burning matches to ignite gun powder inside the barrel. Wheellocks and flintlocks used pyrite and flint to create a spark. These technologies created a lot of smoke and flash which was a detriment to the user.

The modern concept of a flash suppressor appears on machine guns from World War I, including the Chauchat. The traditional flash hider on military arms, not classified as a machine gun, was used during WWII on guns such as the Lee-Enfield "jungle carbine" and has appeared on AR platform firearms, originally invented in the 1950s (**Exhibit ZZ**). Even the invention of a sound suppressor, known legally as a silencer, by Hiram Percy

Maxim in 1902 suppressed flash. Silencers were heavily marketed to the civilian population as target accessories.

Another method to contribute to the ease of shooting is a threaded barrel for several purposes, including the use of a silencer, however, the concept dates back much further. An early idea of a quick attachment system in or on a barrel of a gun is the bayonet. Developed in the sixteenth century, the bayonet was commonly used for both military and civilian firearms. There have been a variety of muzzle devices that have been attached to a barrel (compensators, silencers, muzzle brakes, flash hiders etc.). While some early semi-automatic rifles, pistols, and shotguns had threaded barrels, the military did not always use threaded barrels for their suppressed firearms, nor did the civilian market. This is because Hiram Percy Maxim, the inventor of the Silencer, sold his silencer often with an adapter that allowed a silencer to be affixed without a threaded barrel, making the need for a threaded barrel or the thought that no threaded barrel would prevent the addition of a silencer moot.

SECTION 4: CONCLUSION

To summarize, this report has looked at the long history of firearms around the world. It has looked at technologies specifically relevant to this case with a lens for their technical functions and their varied uses. One of the core takeaways from this report is the context of the interconnectivity between military and civilian firearms since the development of the first ignition system and why civilians have often had superior firearms. It also identifies major developments in firearm technology and establishes that some of the most significant changes in design occurred in the first few centuries, laying the foundation for most if not all modern firearms technology. Ultimately, firearms innovation is a continuum of gradual advancements in technology. Over time, such incremental advancements have contributed to the increasing ability of individuals to operate their firearms effectively and safely.

Exhibit A: Ashley Hlebinsky Curriculum Vitae

Ashley Hlebinsky, President, The Gun Code, LLC
2124 E Kerry Lane, Phoenix, AZ 85024
Email: theguncode@gmail.com
Phone: 412-491-2493

Education:

Master of Arts, American History, University of Delaware, 2013

Bachelor of Arts, American History, University of Delaware, 2011

Recent Honors/Awards:

Second Amendment Foundation's Defender of the Constitution, 2022

National Shooting Sports Foundation and Women's Outdoor Media Association's
Top Five Finalist, Top Woman of the Gun Industry, 2022

National Shooting Sports Foundation's SHOT Business's Top 40 under 40, 2020

Wyoming Business Report's Top 40 Under 40, 2017

National Shooting Sports Foundation & Professional Outdoor Media Association's
Shooting Sports Communicator of the Year Award, 2017

Wyoming's Non-Profit Woman of the Year Nominee, 2017

Selected Professional Experience:

Co-Founder and Senior Fellow, University of Wyoming College of Law's Firearms
Research Center, Laramie, WY, 2020 (Current)

Consulting Director, Craig Boddington Wildlife and Firearms Museum, Independence,
KS, 2022 (Current)

Consulting Curator, LA Police Museum, Pasadena, 2021 (Current)

Senior Consulting Specialist. Cowan's Auctions, Cincinnati, OH, 2020 -2022

Consultant, National Museum of Law Enforcement and Organized Crime (Mob
Museum), Las Vegas, NV, 2016 (Current)

Guest Curator, C.M. Russell Museums and Complex, Great Falls, MT 2021 (Current)

Adjunct Scholar of Firearms History, Technology & Culture, Firearms Policy Coalition, 2020-2021

Curator Emerita & Senior Firearms Scholar, Cody Firearms Museum, Buffalo Bill Center of the West, 2020 – 2021.

Robert W. Woodruff Curator, Cody Firearms Museum, Buffalo Bill Center of the West, Cody, WY, 2015-2020

Project Director, Cody Firearms Museum Renovation, Buffalo Bill Center of the West, Cody, WY, 2015-2019

Consulting Curator, Houston Museum of Natural Sciences, 2018

Consultant. Adirondack Experience. November 2019

Consultant. Winchester Mystery House, August 2019.

Consulting Scholar. National Park Service & Organization of American Historians, March 2019.

Consultant/Curator. Daniel Defense, Black Creek, Georgia. 2017

Associate & Acting Curator, Cody Firearms Museum, Buffalo Bill Center of the West, Cody, WY, 2015

Guest Curator. C.M. Russell Museums and Complex, 2015-2016

Guest Curator. Cody Firearms Experience, 2015

Assistant Curator, Cody Firearms Museum, Buffalo Bill Center of the West, Cody, WY, 2013-2014

Teaching Assistant, The Jewish Holocaust: 1933-1945, University of Delaware, 2013

Teaching Assistant, Introduction to Military History, University of Delaware, 2012

Teaching Assistant, History Education, University of Delaware, 2011

Researcher/Fellow, National Museum of American History, Smithsonian Institution, 2010-2013

Archival Assistant, University of Delaware Special Collection, 2010-2011

Firearm Intern, Soldiers and Sailors National Memorial Hall, 2008

Expert Witness Testimony:

Guardian Arms LLC et al v Jay Inslee, May 2023

Federal Firearms Licensees of Illinois v Pritzker, March 2023 (Barnett v Raoul)

Steven Rupp v Rob Bonta, January 2023

Oregon Firearms Federation, Inc et al v Oregon Governor Kate Brown et al, December 2022

Washington State v Federal Way Discount Guns et al, December 2022

Virginia Duncan et al v Rob Bonta, November 2022

Ocean State Tactical et al v Rhode Island, October 2022

Senate Judiciary Subcommittee on the Constitution, Stop Gun Violence: Ghost Guns, May 2021

Franklin Armory et al v Bonta, February 2021

FN Herstal v Sturm, Ruger & Co, January 2021

Sturm, Ruger & Co. v American Outdoor Brands Corp., October 2020

Guedes v BATFE, June 2019

Miller v Becerra (Bonta), November 2019

Regina (Nova Scotia) v Clayton, January 2019

Garrison v Sturm, Ruger & Company, Inc. 2018

Selected Media Work:

Writer/Producer. Mountain Men: Ultimate Marksman. History Channel, May 2022

(Current) Regular Contributor. *Our American Stories* Podcast, 2022

Co-Host. History Unloaded Podcast. Various platforms with Wyoming Public Media, 2018-2022, 6 seasons (Current)

Producer & On Camera Expert. *Gun Stories with Joe Mantegna*, Outdoor Channel, 2015-2022, 8 seasons (Current)

Producer & On Camera Expert. *Man vs History*, History Channel & Matador Productions, 2020 (aired 2021)

Co-Host. *Master of Arms*, Discovery Channel & Matador Productions, 2018. 1 season

Consulting Producer. *Brothers in Arms*. History Channel, 2018. 1 season.

On Camera Expert. *Rob Riggle: Global Investigator*. Discovery Channel, 2020.

Recurring Expert. *Mysteries at the Museum*. Travel Channel. 2017-2019

Casting Consultant. *Gun Shop Project*, Vice Media & Cineflix Productions, 2020

On Camera Expert. *American Genius Colt V. Wesson*. National Geographic. 2015

Also appears on: Public Broadcasting Service, National Public Radio, Travel Channel, National Geographic, Popculture.com, Media, Entertainment, Arts, worldwide (MEAWW), Women's Outdoor News, Outdoor Life, Shooting USA, Gun Talk Media, National Shooting Sports Foundation, various firearms related podcasts.

Has been profiled by: *The Bourbon Review*, *Recoil Magazine*, *Outdoor Life Magazine*, *Guns.com*, *Blue Press Magazine*, and others.

Selected Lectures/Panels:

Panelist. Asheville Ideas Fest. June 2023

Guest Speaker. Gun Rights Policy Conference, October 2022

Guest Speaker. Second Amendment Foundation Legal Scholars Forum, September 2022

Guest Lecturer and Panelist. AmmCon. Second Amendment Foundation, October 2021

Guest Lecturer. Armed for Revolution. Royal Armouries, September 2021

Guest Speaker. Preserving Firearms Heritage. Gun Rights Policy Coalition, 2020

Guest Lecturer. Art of Collecting. Nevada Museum of Art. January 2020

Panelist. Firearms and Museums in the 21st Century. National Council for Public History. March 2019.

Scholars Roundtable. Coltsville National Historic Site. Organization of American Historians & National Park Service, March 2019.

Forum Speaker. The Art of the Hunt: Embellished Sporting Arms in America. New Orleans Antique Forum, August 2018

Guest Lecturer. Unloading the Gun: Firearms, History, and Museums. Yakima Valley Museum, June 2018

Guest Lecturer. Perpetrators and Protectors: The Mob, The Law and Firearms, National Museum of Law Enforcement and Organized Crime (Mob Museum), September 2017

Organizer. Arsenals of History: Firearms and Museums in the 21st Century, Buffalo Bill Center of the West, July 2017

Lecturer. The Cody Firearms Museum, Arsenals of History Symposium, Buffalo Bill Center of the West, July 2017

Moderator. Addressing the Press: Firearms and the Media, Arsenals of History Symposium, Buffalo Bill Center of the West, July 2017

Moderator. Forming an Association: Legitimizing Firearms in Academic Study, Arsenals of History Symposium, Buffalo Bill Center of the West, July 2017

Guest Lecturer. Displaying the “Politically Incorrect,” C.M. Russell Museums and Complex, May 2017

Guest Lecturer. Displaying the “Politically Incorrect,” Blackhawk Museum, March 2017

Panelist. Curator Roundtable, Firearms and Common Law Symposium, Aspen Institute, September 2016

Guest Lecturer. Displaying the “Politically Incorrect,” Canadian Guild of Antique Arms Historians, April 2016

Guest Lecturer. The Cody Firearms Museum Renovation, American Society of Arms Collectors, September 2016

Guest Lecturer. From Protector to Perpetrator: Demystifying Firearms in History, Art Institute of Chicago, November 2015

Guest Lecturer. Winchester '73: The Illusion of Movie Making, Winchester Arms Collectors Association, July 2014

Guest Lecturer. Unloading the Six Shooter: Disassembling the Glamorization and Demonization of Firearms in the Arts, Buffalo Bill Center of the West, 2011

Selected Firearms Exhibitions:

Curator/Project Director. *Cody Firearms Museum Renovation*. Buffalo Bill Center of the West. 2019

Co-Curator. *The Art of the Hunt: Embellished Sporting Arms from 1500-1800*. Houston Museum of Natural Sciences. March 2019

Curator. *Glock Makes History: The Birth of the Polymer Handgun Market*. Buffalo Bill Center of the West. June 2016

Guest Curator. *Designing the American West: The Artist and the Inventor*. C.M. Russell Museum & Complex. February 2016

Curator. *The Greatest Gun Designer in History: John Moses Browning*. Buffalo Bill Center of the West. December 2015

Curator. *Journeying West: Distinctive Firearms from the Smithsonian Institution*. Buffalo Bill Center of the West. December 2015

Curator. *The Forgotten Winchester: Great Basin National Park*. Buffalo Bill Center of the West. June 2015

Curator. Western Firearms Gallery, including *Shoot for the Stars: The Tradition of Cowboy Action Shooting*. Buffalo Bill Center of the West. April 2015.

Curator. *Steel Sculptures: Engraving Individuality from Mass Production*. Buffalo Bill Center of the West. Winter 2014.

Certifications:

Certified Firearms Instructor, Basic Pistol, 2016

Certified Firearms Instructor, Personal Protection Inside the Home, 2016

Well Armed Woman Instructor Certification, 2016

Museum Studies Certification, University of Delaware, 2013

Grants:

National Endowment for the Humanities, 2017

Institute of Museum and Library Services, 2017

Gretchen Swanson Family Foundation, 2015, 2016, 2017, 2018, 2019, 2020

Kinnucan Arms Chair Grant, 2012

Fellowships:

Firearms Curatorial Resident, Buffalo Bill Center of the West, 2013

Edward Ezell Fellowship, University of Delaware, 2012

Buffalo Bill Resident Fellowship, Buffalo Bill Center of the West, 2011

Committees and Memberships:

Board Member – Walk the Talk America

Founding President – Association of Firearms History and Museums

- Academic association for the study of firearms history in United States

Founder – Arsenal of History Symposia Series

- First international symposia series on the academic study of firearms

Spokesperson – NSSF/AFSP Suicide Prevention and Project ChildSafe Programs

American Alliance of Museums – Member

American Society of Arms Collectors – Member

Winchester Arms Collectors Association – Honorary

Remington Society of Arms Collectors – Member

Weatherby Collector's Association –Life Member

Publication History

Editorial Board – Armax Journal

Selected Articles:

Author. "Guns and Mental Health." *Recoil Magazine*, Upcoming

Author. "Colt Single Actions and Safety." *Armax Journal*, October 2021

Author. "Guns and Partisan Politics." *Recoil Magazine*, January 2021

Author. "Feminism & Firearms." *Recoil Magazine*, Summer 2020

Author. "Burton Light Machine Rifle." *Recoil Magazine*. October 2019

Founder/Editor/Author. *Arsenals of History Journal*, Annual Publication, 2018 - Present

Author. "It's Complicated: The Short Answer to Firearms, Museums and History." *Journal of the Early Republic – The Panorama*, September 2018.

Contributor. "Firearms Curator Roundtable" *Technology & Culture Journal*, August 2018

Author. "Displaying the 'Politically Incorrect.'" *CLOG X Guns*: Chicago, IL, September 2017

Author. "Does History Repeat Itself? The Smith & Wesson LadySmith." *CLOG X Guns*: Chicago, IL, September 2017

Author. "Renovating the Cody Firearms Museum." *International Committee of Museums and Collections of Arms and Military History Magazine*. Issue 17, May 2017. Pg. 38 - 41

Author. "Renovating the Cody Firearms Museum." *American Society of Arms Collectors Journal*. Fall 2016.

Author. "Glock Exhibit Opening." *Glock Magazine*. Bang Media. Annual 2017

Author. "The 28 Most Notable Guns from Remington's 200-Year History." *Outdoor Life Magazine*. Bonnier Corporation, 2016

Author. "Cassie Waters: Businesswoman of the Old West." *Guns of the Old West*. Harris Publications, Spring 2016

Author. "Making History: GLOCK Pistols at the Cody Firearms Museum" *Glock Magazine*. Harris Publications. Annual 2016

Author. "Pocket Pistols: 10 Seminal Guns from the Past 300 Years." *Pocket Pistols*. Harris Publications. 2016

Author. "The Gun that Won the Western and the Unforeseen Stars of Winchester '73" *Guns of the Old West*. Harris Publications.

Author. "Frontier Profile: Jedediah Strong Smith" *American Frontiersman*. Harris Publications

Author. "Frontier Legend John Johnston." *American Frontiersman*. Harris Publications

Author. "The Guns of John Johnston." *American Frontiersman*. Harris Publications

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Author. "Icons and Has-beens." *American Handgunner*. FMG Publications, 2014

Author. "Triggering Memory: American Identity in *Cowboys and Aliens*." *Points West*. Spring 2012

Author. "Unloading the Six-Shooter: Disassembling the Glamorization and Demonization of Firearms in the Arts." *Points West*, Fall 2011.

Columns:

Author. Old School Series. *Recoil Magazine*

Author. Flashback. *Concealment Magazine*

Author/Brand Ambassador. *The Bourbon Review*.

Author. *American Association for State and Local History*. Summer 2019

Author. "Weird West: Fact or Fiction" *Guns of the Old West*. Athlon Outdoors (formerly Harris Publications)

1st Assault Rifle

Colt VS Winchester Revolver

Did Winchester Really Win the West?

Oliver Winchester's Lever Action Shotgun

Remington Cane Gun

Author. "Cowboy Action Round Up." SHOT Show New Products. *Guns of the Old West*. Athlon Outdoors (formerly Harris Publications). 2015, 2016, 2017

Reviews:

Reviewer: Edited by Jonathan Obert, Andrew Poe, and Austin Sarat. Oxford: Oxford University Press, 2018. *Journal of Technology & Culture*, Fall 2019

Author. "Everybody Loves an Outlaw: Taylor's Outlaw Legacy Revolver Series." *Guns of the Old West*. Harris Publications

Reviewer: Richard Rattenbury. *A Legacy in Arms: American Firearms Manufacture, Design and Artistry, 1800-1900*. *Chronicle of Oklahoma*, Spring 2016

Selected Blogs & Vlogs:

Recoil Magazine

Weekly video series beginning October 2017 to Present

Dillon Precision

Historical Videos on Ammunition (Upcoming)

Outdoor Life

Top 10 Guns in American History
Guns of the Old West: 10 Iconic Firearms and the Legendary Men (and
Women) Who Shot Them
13 of the Biggest Gun Fails in Recent Firearms History
Gun of the Week:
John Martz Luger
Apache Revolver
German Frei Pistol
King Louis XV Embellished Blunderbuss
Armalite AR-17 Shotgun
Getting the Christmas Goose with a Goose Rifle & Cutaway Suppressor
Mossberg Brownie
Wesson & Leavitt Belt Revolver
William Harnett and the Faithful Colt 1890
Winchester Model 1894 Lever Action Rifle
Ruger Semi-Automatic Pistol, 1 of 5,000
Herb Parson's Winchester Model 71 Lever Action Rifle
Lincoln Head Hammer Gun
American Trap Gun
Browning Brother's Single Shot Rifle Patent
Feltman Pneumatic Machine Gun
U.S. Springfield-Allin Conversion Model 1866 Trapdoor Rifle
Winchester Wetmore-Wood Revolver
Webley-Fosbery Automatic Revolver
Hopkins & Allen XL3 Double Action Revolver
DuBiel Modern Classic Rifle
Colt Model 1877 "Thunderer" Double Action Revolver
Tom Tobin's Colt Model 1878 Frontier Revolver
Walch 10-Shot Double Hammers Pocket Revolver
Winchester Model 1887, Serial No. 1
Deringer vs Derringer
The Forgotten Winchester 1873 of Great Basin National Park

Range 365

To the One Who Got Away

Gun Review: New Glock 19 Gen 5

Ain't She a Pistol? 10 Historic Gun Ads Featuring Women

National Shooting Sports Foundation

The Gun Vault:

Winchester 1873 Found in Great Basin National Park
Col. Jeff Cooper's Colt MK IV Series 80
500+ Year Old Firearms, Matchlocks, Flintlocks
U.S. Presidents Guns
Cross Dominance Shotgun
Herb Parson's Winchester Model 71 Rifle
Audie Murphy's Colt Bisley Revolver
4 Gauge Winchester Wildfowler
Pocket Pistols
Henry Ford's Winchester Model 1887 Lever Action Shotgun
Tom Knapp's First Gun
Buffalo Bill Cody's Winchester 1873
Colt Model 1861 Navy Serial No. 1
Cassie Waters' Hopkins & Allen XL3 Revolver
Glock 17

The Truth About Guns

Presidential Presentation Rifles
Factory Cut-Away M16A1
1854 Smith & Wesson Repeating Rifle (Serial Number 8)
Winchester World's Fair Model 1866 Deluxe Sporting Rifle
Raymond Wielgus Collection
Gastinne-Renette Muzzleloading Percussion Target Pistols
Oliver Winchester's Jennings Repeater
Henry Ford's Winchester Model 1887
Winchester Model 1866 Musket in .44 Rimfire
English Wheellock
Southern Belle American Long rifle
Annie Oakley's Model 1892 Smoothbore Rifle
Catherine the Great of Russia's Blunderbuss Gift to King Louis XV of France
Color Case-Hardened GLOCK 43: Merging the Old West with the New
Buffalo Bill Center of the West – Unloading the Myth
The Cody Firearms Museum – Yesterday, Today, and Tomorrow
Guns of the Week – Christmas List
Guns of the Week: December 15-19
Guns of the Week – The Cody Firearms Museum
Guns of the Week – German Firearms
Guns of the Week – Scheutzenfest
Guns of the Week – Air Guns
Guns of the Week – Early Firearms Law
Guns of the Week – October 13-17
Guns of the Week – Ingenious Engineering
Guns of the Week – Remington – Smoot
Guns of the Week – September 22-26; 15-19; 8-12
CSI: Firearms Museum Edition

Confessions of a Gun Historian
Art Guns: Aesthetics Over Function?
What Good's a Gun Without a Firing Pin?
Gun Installations, Trials & Tribulations
A True Test of Marital Trust and Love
Remembering Tom Knapp
Cody Firearms Museum Goes Hollywood
When Will My Firearms Go On Display
What's Your Cody Firearms Museum
To Vlog or Not to Vlog
We Don't Just Have Old Guns in Our Museum: SHOT Show 2014
Taking a Staba at Displaying More Guns
"Hi Yo Silver" Cook Away! Lone Ranger Display
The Shooting Wire
Winchester's 150th Anniversary Website
Remington's 200th Anniversary Website

Exhibit B: Definitions

Air Rifle: a rifle that fires projectiles with compressed air.

Fire lance: early gunpowder weapon in which a barrel would be attached to a longer weapon.

Flintlock: A firearm that uses a piece of flint to strike a steel plate, known as a frizzen, to spark and fire the gun

Frizzen: steel plate on a flintlock that the flint strikes to create spark.

Gunpowder: an explosive consisting of a mixture of saltpeter, sulfur, and charcoal

Hand cannon: a cannon that fits in your hand.

Lock plate: the plate on the side of the firearm that contains the springs and mechanical components necessary to fire a gun from matchlock to percussion ignition.

Long rifle: an American made firearm that was popular in the colonies and early America. It had a longer barrel and a smaller caliber than European variations of sporting arms.

Matchlock: the first ignition system, utilizing a slow burning match to fire the gun

Metallic cartridge: Both rimfire and centerfire and contains all components of a cartridge within a metal case.

Minie ball: the first successful conically shaped projectile, named for its inventor Claude Etienne Minie

Percussion: an internal combustion system that utilized a fulminate compound to send a spark inside the barrel of the gun to fire it

Percussion Cap: the cap used to create the spark of a percussion ignition firearm. It contains a fulminate, typically mercury.

Silencer: a sound suppression device that also hides muzzle flash and causes recoil reduction

Smokeless powder: explosive propellant that produces less smoke than gun powder.

Superposed: a type of repeating firearm in which projectiles and powder are stacked like a roman candle.

Wheellock: an ignition system that utilizes a serrated disc that spins slightly to spark a piece of pyrite and fire the gun.

Exhibit C: Hand Cannon



From the Cody Firearms Museum, Buffalo Bill Center of the West Collection.

Exhibit D: Matchlock



Reproduction Matchlock made by Eric Von Aschwege

Exhibit E: Early Target Shooting Medal



(obverse)

132

A GERMAN PARCEL-GILT SILVER TARGET SHOOTING PRIZE
DRESDEN, DATED 1537, UNMARKED

Formed as a large shaped circular pendant medallion suspending two smaller openwork medallions, the moulded border with applied foliage and inner laurel wreath centering on a cherub's mask with suspension ring above, the centre *repoussé* and chased with a huntsman with raised matchlock rifle amongst scrolling flowers and foliage, standing beside an escutcheon of arms of Dresden held by a putto, the backplate engraved with inscription within scrolling foliage incorporating two figures supporting a target above and a standing putto below, the smaller pendant shields each formed as a foliage and berried wreath enclosing an escutcheon, engraved with instruments emblematic of the building trade, one further engraved with initials BK, coat-of-arms and date 1541, the reverse with inscription and date 1540, the other with initials HR, coat-of-arms and date 1563, the reverse with date 1562, within engraved wreath

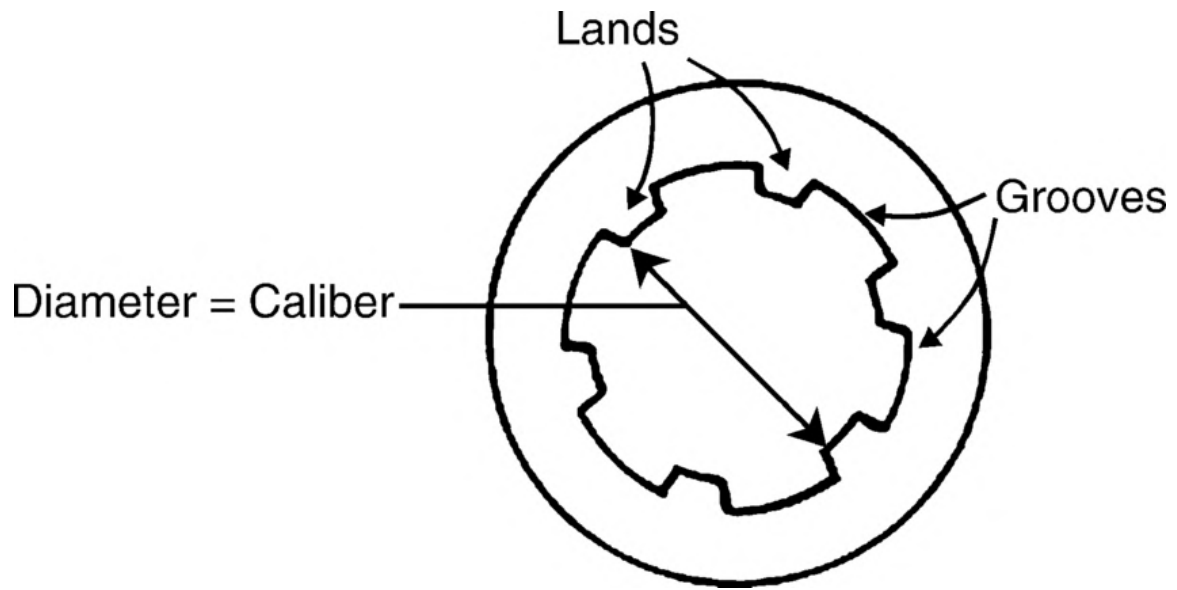
200

Exhibit F: Wheellock Pistol



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West.

Exhibit G: Rifling Diagram



www.researchgate.net

Exhibit H: American Long Rifle



Warfarehistorynetwork.com

Exhibit I: Double Barrel (Swivel Barrel) American Long Rifle



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West
<http://collections.centerofthewest.org/argus/bbhc/Portal/bbhc.aspx?lang=en-US>

Exhibit J: Centerfire Olympic Biathlon Rifle



Note the thumbhole stock and palm rest which exist to stabilize the gun for precision target shooting

From the Cody Firearms Museum Collection, Buffalo Bill Center of the West.

Exhibit K: Multi-Barrel Hand cannon



From the Cody Firearms Museum collection, Buffalo Bill Center of the West.

Exhibit L: 16-Shot Wheellock



From the National Firearms Museum and pictured in *America's First Freedom* magazine.

Exhibit M: Kalthoff Magazine-fed Repeater



Google Image Search

Exhibit N: Lorenzoni Style Magazine-fed Repeater



ROYAL ARMOURIES

Royal Armouries Collection in Leeds, UK.

Exhibit O: Dafte Revolver



Royal Armouries, Leeds, UK.

Exhibit P: Wetschgi Magazine-fed Firearm



Christie's Auction

Exhibit Q: Cookson Magazine-fed Repeater:



From the collection of VAM in South Kensington, UK

Exhibit R: Boston Gazette Advertisement (1756)

THE
Boston-
AND
COUNTRY

Containing the freshest Advices



Nº 54.

Gazette,
JOURNAL.

Foreign and Domestick.

MONDAY, APRIL 12, 1756.

Printed by Nathl. Bowyer from Newland. Schoo. Print. u. Scho. Typet. James Dickinson from the Press.

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THE Trustees to Mr. Cammon Steven's Creditors,
for the last Time, GIVE NOTICE, That they shall,
without fail, sue all the Debtors to that Estate, who
do not discharge their respective Ballances by the last
Day of May next. Boston, April 10, 1756.

MADE by JOHN COOKSON, and to be Sold
by him at his House in Boston: A handy
Gun of 9 Pound and a half Weight; having a Place
convenient to hold 9 Bullets, and Powder for 9
Charges and 9 Primings; the said Gun will fire 9
Times distinctly, as quick, or slow as you please,
with one turn with the Handle of the said Gun, it
doth charge the Gun with Powder and Bullet, and
doth prime and shut the Pan, and cock the Gun. All
these Motions are performed immediately at once, by
one turn with the said Handle. Note, there is No-
thing put into the Muzzle of the Gun as we charge
other Guns.

▲ I. I. Persons that have any Demands on the

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Exhibit S: Belton Superposed Pistol (Reproduction)



Rock Island Auction

Exhibit T: Girardoni Air Rifle



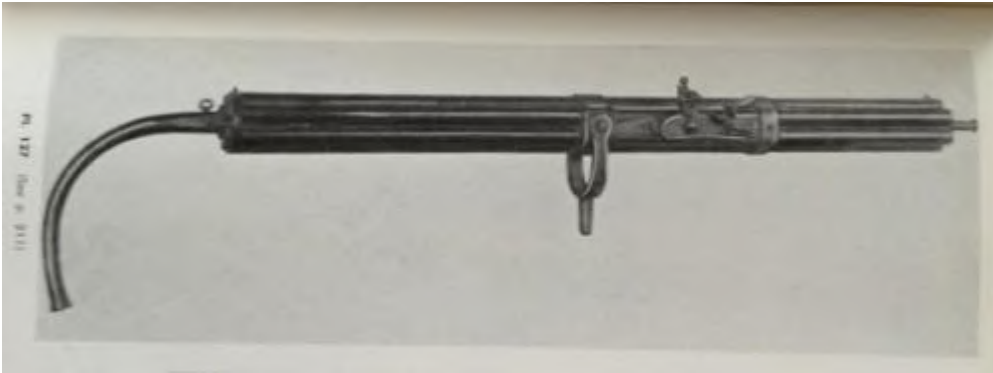
Google Image Search

Exhibit U: Duck's Foot Pistol



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit V: Chambers Multi-Barrel Firearm



www.historicalfirearms.info

Exhibit W: Jennings Repeater



Google Image Search

Exhibit X: South Carolina Gazette Estate Sale (1736)

NUMB. 125.

THE

South-Carolina Gazette.

Containing the freshest Advices Foreign and Domestick.

From Saturday, JUNE 12, to Saturday, JUNE 19, 1736.

THE SAID JOHN DONNING, at the EXAMINATION of JOHN BRAND
afore said.

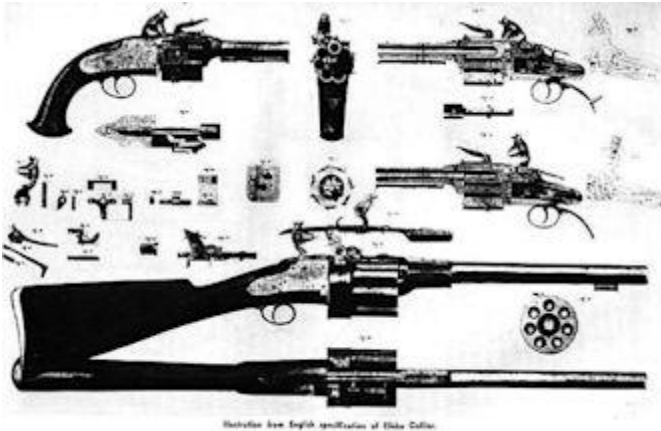
This is to give Notice to all Persons that have any Demands on the Estate of Mr. *Joseph Massey* deceased, to bring in their Accounts, in order that all possible means may be used to discharge the same, and all such as are indebted to the said Estate, are desired to pay the same by the 1st of *August* next without fail, to *Philip Massey* Administrator of the said Estate, living at the Sign of the Cross Guns between Mr. *John Brand* and the Printer. He has to be sold a Silver hilted small Sword, two Silver Watches, a six times repeating Gun, a chamber'd Gun, and a double barrel Gun, &c. a pair of Smith's large double bellows, a new Anvil with a Beack-iron to it, sundry pair of large Vices, sortment of Files and many other tools, &c. a history of Mines and Minerals, *Harris's* Lexicon technicum, in Folio two Volumes, and many other Books of the Mathematicks, all which will be sold very reasonable for ready Money.

N.B. Whereas a Book in folio, intituled, *the Construction and principal use of all mathematical Instruments*, translated from the French of Mr *Bion* by *Edm Store*, and several other Books have been lent out by the Deceased, the Persons who have the same in possession are kindly intreated to return them to

PHILIP MASSEY.

To be Sold to the highest Bidder on the 29th of July next, the residue of the Slaves, Horses, black Cattle & Sheep, Plate and Plantation tools, late belonging to the Estate of *Th: Donning* deceased, at the Pond's Plantation, N.B. The Sale to begin at 10 o'clock in the morning. The Money to be paid down before the Delivery or the Sale to

Exhibit Y: Collier Revolver



Google Image Search

Exhibit Z: Pepperbox Pistol



Google Image Search

Exhibit AA: Colt's February 1836 Patent

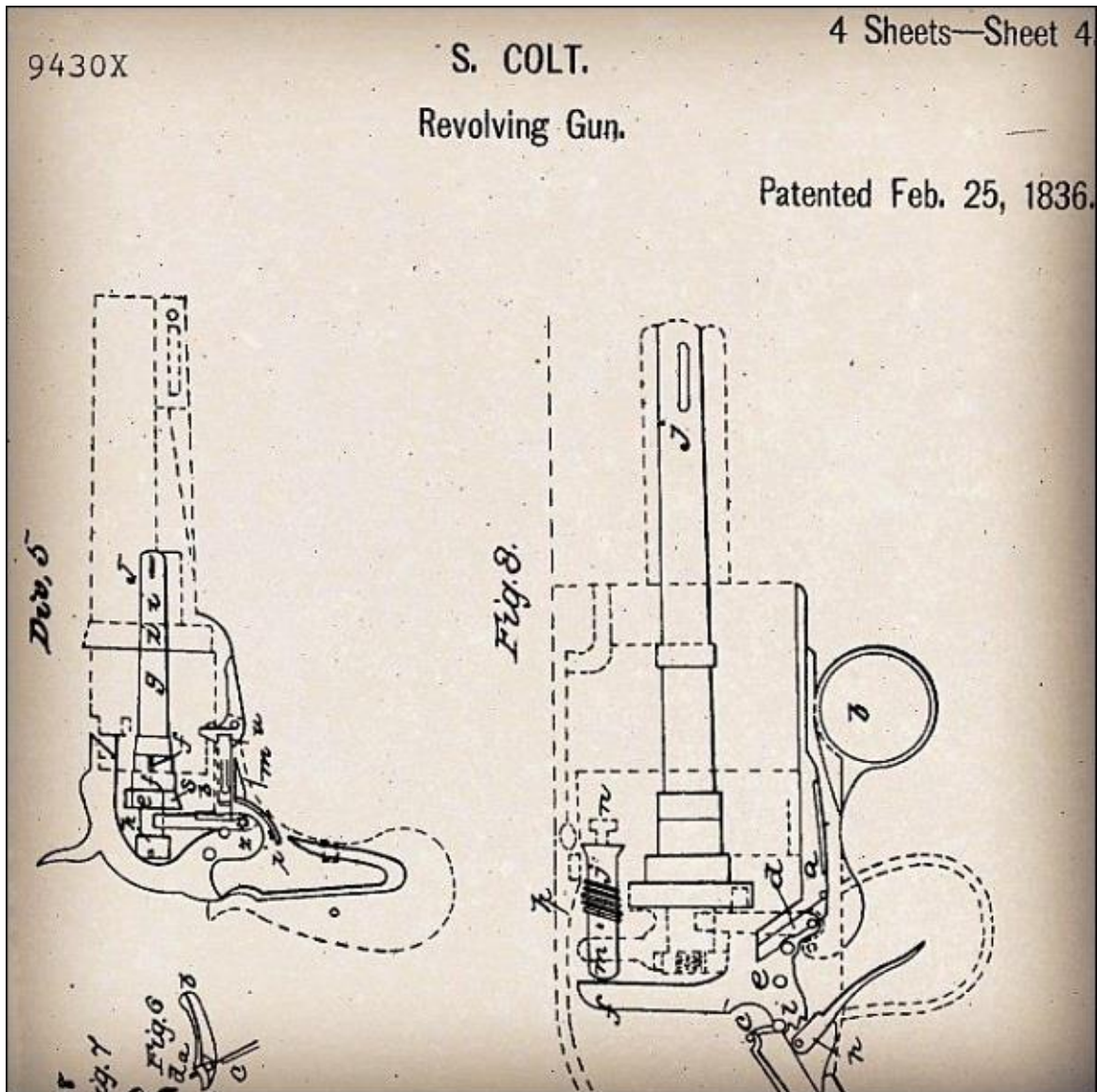


Exhibit BB: Porter Turret Rifle



Gunsinternational.com

Gunsinternational.com

Exhibit CC: Lindner Patent Prototype



Private Collection

Exhibit DD: Smith & Wesson Revolver



Collector's Firearms

Exhibit EE: Volcanic Pistol and Rifle



Winchester Arms Collector's Association

Exhibit FF: Henry Rifle



Google Image Search

Exhibit GG: Winchester Model 1866 Rifle



Google Image Search

Exhibit HH: Evans Repeating Rifle



Google Image Search

Exhibit II: Savage Model 1899 with Rotary Magazine



Armlist.com

Exhibit JJ: Borchardt C93 Semi-Automatic Pistol



Christie's Auction

Exhibit KK: Mauser C96 Semi-Automatic Pistol



Collector's Firearms

Exhibit LL: Colt Model 1911 Semi-Automatic Pistol



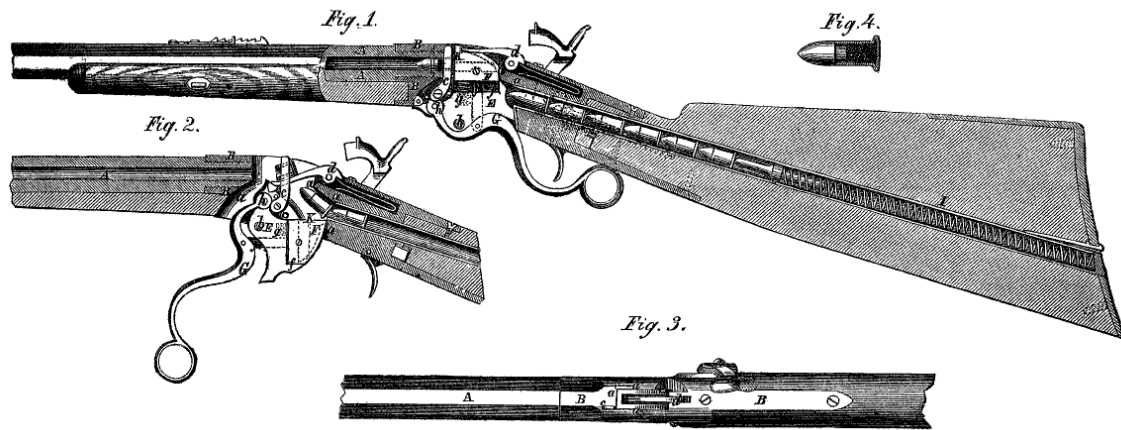
Google Image Search

Exhibit MM: Hunt Volitional Tubular Magazine Rifle



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit NN: Spencer Magazine



Google Image Search

Exhibit OO: Genhart Magazine



From the Cody Firearms Museum collection, Buffalo Bill Center of the West

Exhibit PP: Jarre Magazine



From the Cody Firearms Museum collection, Buffalo Bill Center of the West.

Exhibit OO: Rollin White Patent

R. WHITE.
REPEATING FIREARM.
No. 12,648. Patented Apr. 3, 1855.

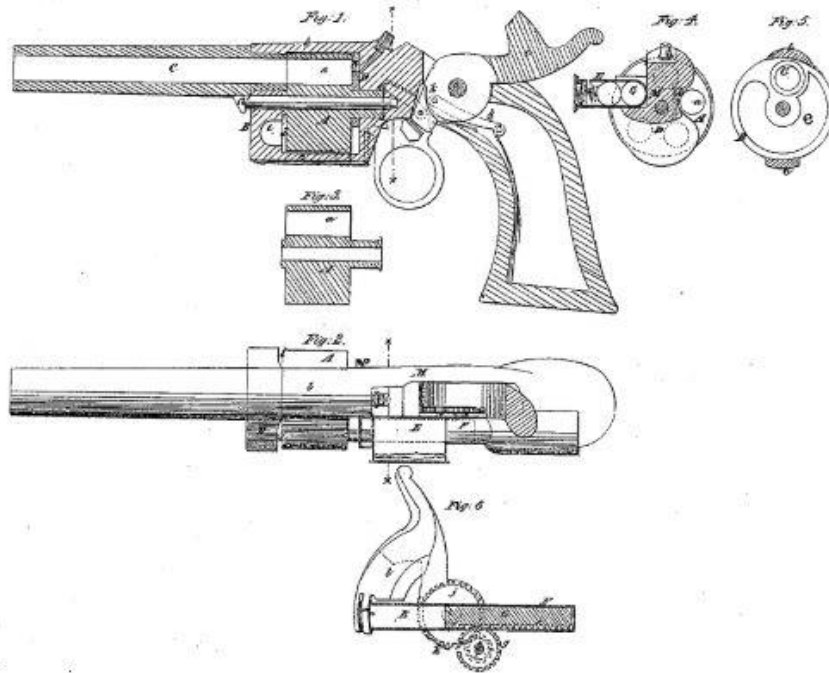


Exhibit RR: Robert Wilson Patent

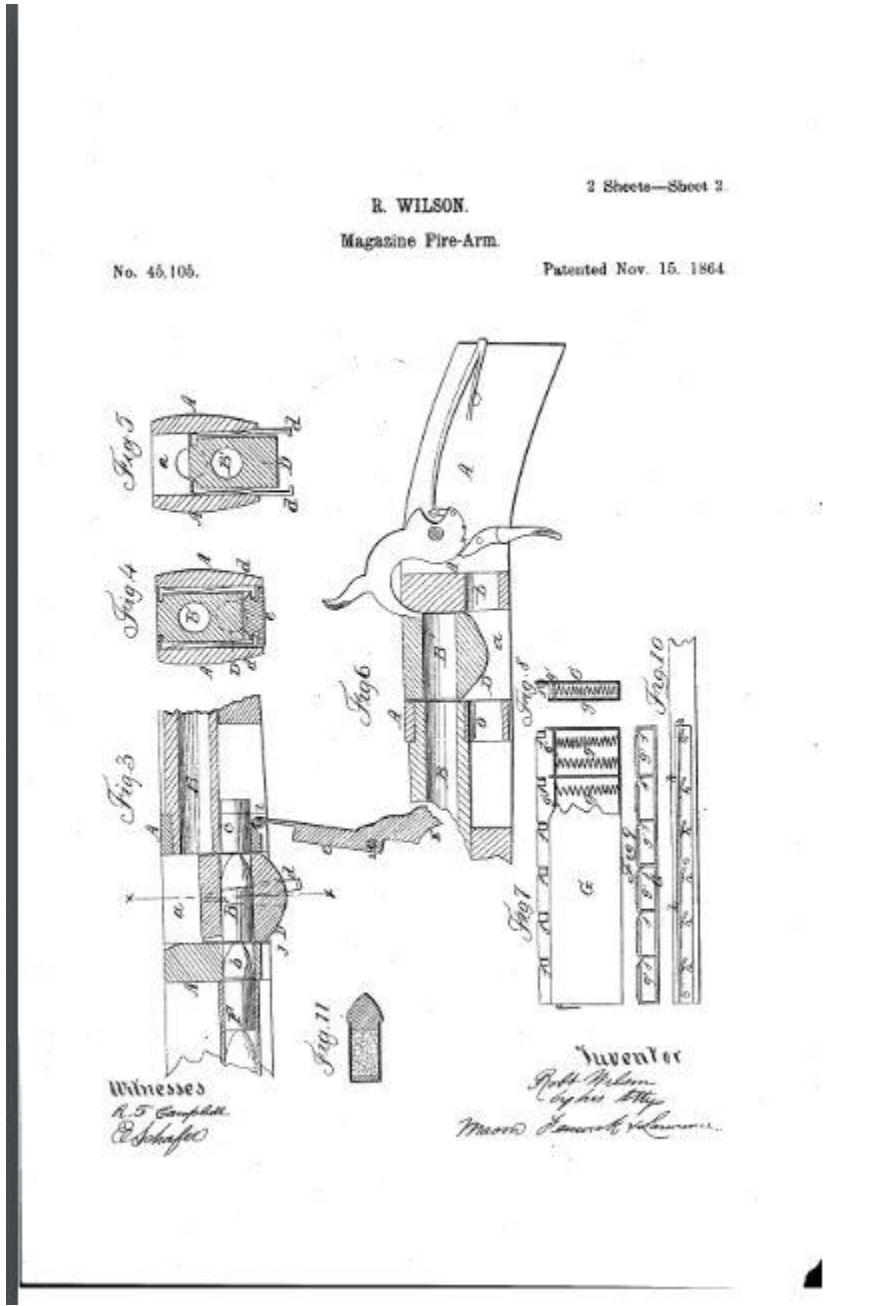
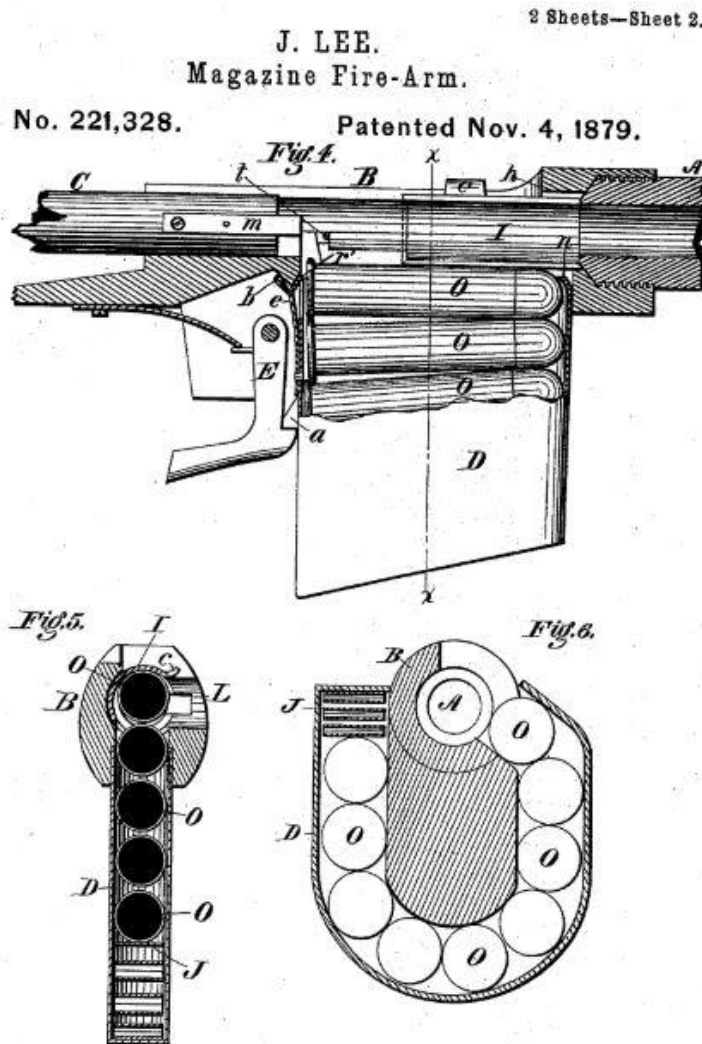


Exhibit SS: James Paris Lee Patent



Witnesses:
Donn B. Twitchell.
D. P. Cowl

Inventor:
James Lee
By Dodge & Son,
Attys

THE KODAK PICTURE CO. PHOTOGRAPH, NEW YORK, N. Y.

Exhibit TT: Schuetzen and Frei Firearms



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit UU: Pistol Grips with Detachable Stocks

Flintlock pistol with detachable stock



Austrian Pistol with a straight pistol grip like the New Jersey statutes



Colt Model 1851 with detachable stock



Borchardt with detachable stock



Mauser with detachable stock



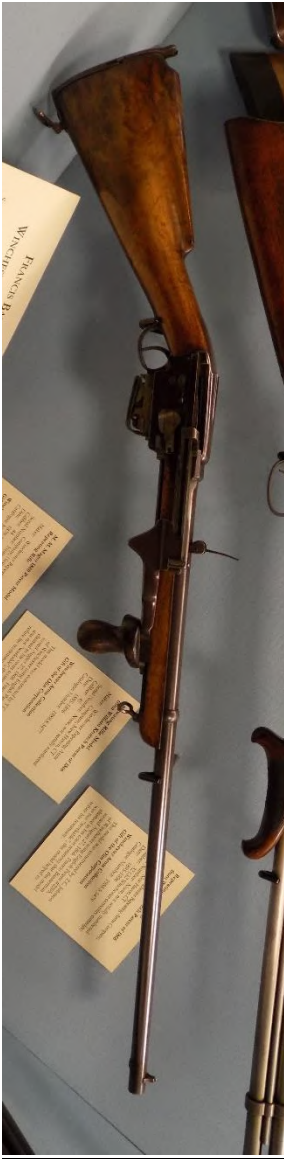
From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit VV: M1 Carbine with Pistol Grip and Folding Stock



Google Image Search

Exhibit WW: Magot Rifle



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit XX: Folding Stock Blunderbuss



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit YY: Try Guns – Made to fit a Gun to the User



From the Cody Firearms Museum Collection, Buffalo Bill Center of the West

Exhibit ZZ: Flash Suppressor on a Lee Enfield



Google Image Search

Exhibit 19

REBUTTAL EXPERT REPORT OF CLAYTON CRAMER
JULY 17, 2023

I. Qualifications

My M.A. in History is from Sonoma State University in California. I teach history at the College of Western Idaho. I have nine published books, mostly scholarly histories of weapons regulation. My 18 published articles (mostly in law reviews) have been cited in *D.C. v. Heller* (2008), *McDonald v. Chicago* (2010), *Jones v. Bonta* (9th Cir. 2022), *Young v. State* (9th Cir. 2021), *State v. Sieyes* (Wash. 2010), *Senna v. Florimont* (N.H. 2008), *Mosby v. Devine* (R.I. 2004). A comprehensive list of my scholarly works and citations can be found at <https://claytoncramer.com/scholarly/journals.htm>.

In several cases, my work has been cited in defense of laws limiting firearms ownership: *State v. Roundtree* (Wisc. 2021), *State v. Christen* (Wisc. 2021), *King v. Sessions* (E.D.Penn. 2018).

I am being compensated for services performed in the above-entitled case at an hourly rate of \$150 for expert reports and declarations. My compensation is not contingent on the results of my analysis or the substance of any testimony.

My CV is attached hereto as Exhibit A.

II. Saul Cornell

This Rebuttal to Prof. Cornell reveals multiple errors that demonstrate a limited knowledge of the colonial period and legal history.

A. Carrying Over English Common Law

At p. 3, Cornell asserts “Each of the new states, either by statute or judicial decision, adopted multiple aspects of the common law, focusing primarily on those features of English law

that had been in effect in the English colonies for generations.” His footnote lists “9 STATUTES AT LARGE OF PENNSYLVANIA 29-30 (Mitchell & Flanders eds. 1903); FRANCOIS XAVIER MARTIN, A COLLECTION OF STATUTES OF THE PARLIAMENT OF ENGLAND IN FORCE IN THE STATE OF NORTH-CAROLINA 60–61 (Newbern, 1792); *Commonwealth v. Leach*, 1 Mass. 59 (1804).”

“9 STATUTES AT LARGE OF PENNSYLVANIA 29-30” carried over English law but with the important provision:

all and every person and persons whosoever are hereby enjoined and required to yield obedience to the said laws as the case may require *until the said laws or acts of general assembly respectively, shall be repealed or altered* or until they expire by their own limitation and the common law and such of the statute laws of England as have heretofore been in force in the said province, except as is hereafter excepted.¹ [emphasis added]

Certainly, the Pennsylvania Constitution of 1790, with its guarantee of a right to keep and bear arms,² qualifies as alteration of English common law concerning arms.

“FRANCOIS XAVIER MARTIN, A COLLECTION OF STATUTES OF THE PARLIAMENT OF ENGLAND IN FORCE IN THE STATE OF NORTH-CAROLINA 60–61 (Newbern, 1792).” The legislature tasked Martin to sift through all existing British statutes that *might* have some applicability to North Carolina. “I began at Magna Charta. The old statutes, before that period are generally acknowledged to be rather a matter of mere curiosity, and scarcely an authentic record of any of them is extant.... I have inserted every statute unrepealed by subsequent acts, or which did not appear so glaringly repugnant to our system of government as to warrant its suppression.”³ North Carolina’s 1776 Constitution guarantees “That the people have a right to bear arms, in defense of the State”⁴ Again, this guarantee concerning the right to bear arms overrode English

¹ 9 STATUTES AT LARGE OF PENNSYLVANIA 30 (1903).

² Penn. Const., Art. IX, § 21 (1790).

³ Martin, A COLLECTION OF STATUTES OF THE PARLIAMENT OF ENGLAND IN FORCE IN THE STATE OF NORTH CAROLINA iii (1792).

⁴ North Carolina Const. Art. XVII (1776).

common law. Furthermore pp. 60-61 in Martin's collection is the Statute of Northampton disqualified for relevance by *Bruen*.⁵

When the North Carolina Supreme Court heard *State v. Newsom* (1844), one of the claims made by the black defendant was that the 17th article the Bill of Rights of North Carolina protected his right to carry a shotgun. The North Carolina Supreme Court in deciding in this case, did not question whether the right to keep and bear arms was individual in nature. Instead, they ruled that the defendant's color was the deciding principle, taking precedence over the text. Referring to the authors of the North Carolina Constitution: "They must have felt the absolute necessity of the existence of a power somewhere, to adopt such rules and regulations, as the safety of the community might, from time to time, require."⁶

"*Commonwealth v. Leach*, 1 Mass. 59 (1804)": The decision did nothing to make English common law applicable in Massachusetts:

Hooker, for the prosecution, conceded that justices of the peace were officers created by statute, and that their jurisdiction and powers were wholly dependent upon the statutes; 2 Hawk. P. C. c. 8, 13 , &c. But he contended that their jurisdiction here was not limited to those offences which are expressly, and by name in our own statutes, made cognizable by them; on the contrary, that it extended to all cases in which justices of the peace in *England* had jurisdiction by any of the statutes of that country which were passed previous to the emigration of our ancestors; which were to be considered as a part of our common law; that this was strongly implied in the act for establishing Courts of General Sessions of the Peace, passed July 3, 1782, (stat. 1782, c. 14 ,) by the first section of which" they are empowered to hear and determine all matters relative to the conservation of the peace, and the punishment of such offences as are cognizable* by them at common law, or by the acts and laws of the legislature, and to give judgment, &c.

In this act, the term *common law* cannot mean the common law of *England*, because justices of the peace there are not common law officers; it must,

⁵ *New York State Rifle & Pistol Assn, Inc. v. Bruen*, 142 S. Ct. 2111, 2139, 2140 (2022).

⁶ *State v. Newsom*, 27 N.C. (5 Ired.) 250, 255 (1844).

therefore, mean our common law; and on this subject, our common law must be precisely what the *statute* law of *England* was at the time of the emigration of our ancestors from that country. The statutes which were previous to that time enacted in England, and which define or describe the authorities, powers, and jurisdiction of justices of the peace, give to them, expressly, cognizance of divers offences which were offences at common law; among which are trespasses.⁷ [emphasis in original]

Clearly, only *some* parts of English law were common with Massachusetts law. Where Massachusetts law had differed, English law was no longer valid.

A later digest of Massachusetts decisions includes “*Commonwealth v. Leach*, 1 Mass. 59 (1804)” in its list of “English Statutes Adopted Here.”⁸ Only individual *statutes*, not necessarily all of common law applied in Massachusetts, or there would be no need to have a detailed list.

Cornell has attributed this carryover of English law as it was in 1776 to “[e]ach of the new states” from sources in three states, none of which fits his claim. Cornell does not understand his sources.

The U.S. Supreme Court has also emphasized how little significance English common law has compared to a constitution: “Legislation is the exercise of sovereign authority. High and important powers are necessarily vested in the Legislative body; whose acts, under some forms of government, are irresistible and subject to no control. In England, from whence most of our legal principles and legislative notions are derived, the authority of the Parliament is transcendent and has no bounds.”⁹

⁷ *Commonwealth v. Leach*, 1 Mass. 59 (1804).

⁸ 2 MASSACHUSETTS DIGEST: BEING A DIGEST OF THE DECISIONS OF THE SUPREME JUDICIAL COURT OF MASSACHUSETTS, FROM THE YEAR 1804 TO THE YEAR 1857. 661 (1863).

⁹ *Vanhorne's Lessee v. Dorrance*, 2 U.S. (2 Dall.) 304, 308, 28 F. Cas. 1012 (C.C.D. Pa. 1795).

B. Conserving the Peace

Prof. Cornell on p. 3 quotes Blackstone's COMMENTARIES about how the common law "hath ever had a special care and regard for the conservation of the peace; for peace is the very end and foundation of civil society." True enough, but Blackstone's quote is from a discussion of:

[S]ubordinate magistrates, whom I am to consider justices of the peace... Of these, some had, and still have, this power annexed to other offices which they hold; others had it merely by itself, and were thence named *custodes* or *conservatores pacis*. Those that were so *virtute officii* still continue: but the latter sort are superseded by the modern justices.¹⁰

While perhaps an accurate statement of Blackstone's view of the common law, it seems a good case can be made that it is a retrospective description, and irrelevant to English law in Blackstone's time and therefore irrelevant to American law.

When Blackstone listed the absolute rights that every Englishman enjoyed, peace was not on the list, but "5. THE fifth and last auxiliary right of the subject, that I shall at present mention, is that of having arms for their defense..."¹¹ Blackstone does not identify peace as one of these "Rights of Persons" in Book I, ch. 1:

The rights themselves, thus defined by these several statutes, consist in a number of private immunities; which will appear, from what has been premised, to be indeed no other, than either that residuum of natural liberty, which is not required by the laws of society to be sacrificed to public convenience; or else those civil privileges, which society hath engaged to provide, in lieu of the natural liberties so given up by individuals.¹²

If Blackstone is of great importance for determining what was important in English and therefore American law, this core right of self-defense deserves *at least* as much weight as Cornell's apparently out of context of quote from Blackstone.

¹⁰ William Blackstone, 1 COMMENTARIES ON THE LAWS OF ENGLAND 143 (1775).

¹¹ *Id.*, at 143.

¹² *Id.*, at 121.

At p. 6:

The most basic right of all at the time of Founding was the right of the people to regulate their own internal police. Although modern lawyers and jurists are accustomed to thinking of state police power, the Founding generation viewed this concept as a right, not a power. The first state constitutions clearly articulated such a right — including it alongside more familiar rights such as the right to bear arms. Pennsylvania’s Constitution framed this estimable right succinctly: “That the people of this State have the sole, exclusive and inherent right of governing and regulating the internal police of the same.” The term police encompassed more than law enforcement, it also included the right of the people to legislate for the common good.

The Pennsylvania Constitution included a guarantee of a right to keep and bear arms,¹³ a guarantee “[N]o part of a man’s property can be justly taken from him, or applied to public uses, without his own consent, or that of his legal representatives”¹⁴ and a guarantee of “a right to freedom of speech, and of writing, and publishing their sentiments.”¹⁵ These seem to be pretty large exceptions to Cornell’s imagined right “to legislate for the common good.” Perhaps Cornell’s understanding of state police power is wrong or at least more limited than he imagines?

Pennsylvania Supreme Court decisions portray the state’s police power somewhat more narrowly than Cornell: “Its exercise may be limited by the frame or constitution of a particular government, but its natural limitations, in the absence of a written constitution, are found in the situation and necessities of the state, and these must be judged of in the first instance by the government itself.”¹⁶

What the people, and ideally the legislature as well, consider “laws to promote public health and safety” has been restrained by both state constitution bills of rights and the U.S. Bill of Rights from the very beginning. Rep. James Madison, author of the Bill of Rights, is also

¹³ Penn. Const. Art. 11 (1776).

¹⁴ Penn. Const. Art. 8 (1776).

¹⁵ Penn. Const. Art. 12 (1776).

¹⁶ *Commonwealth v. Vrooman*, 164 Pa. 306, 316 (Penn. 1894).

remembered for his MEMORIAL AND REMONSTRANCE, ON THE RELIGIOUS RIGHTS OF MAN arguing that Virginia should disestablish the Anglican Church:

Either then, we must say that the will of the Legislature is the only measure of their authority, and that, in the plenitude of this authority, they may sweep away all our fundamental rights; or, that they are bound to leave this particular right untouched and sacred: either we must say that they may control the freedom of the press, may abolish the trial by jury, may swallow up the Executive and Judiciary powers of the State; nay, that they may despoil us of our right of suffrage, and erect themselves into an independent and hereditary assembly: or, we must say, that they have no authority to enact into law the bill under consideration.¹⁷

If Cornell really believes in this police power “to promote the common good,” I look forward to his stalwart defense of state laws mandating racially segregated public schools and public accommodations, censorship of dirty books, prohibitions on sodomy, one man/one woman marriage laws, and bans on transgender sports. It is hard to consider a person a legal scholar or historian who does not understand that the American experiment in democracy has always been restrained by a recognition that majorities can and do make mistakes. This is the reason that every state constitution today, many of the Revolutionary state constitutions, and the U.S. Constitution has a Bill of Rights.

At pp. 8-9, Cornell quotes the Second Amendment and asserts, “Thus, from its outset, the Second Amendment recognizes both the right to keep and bear arms and the right of the people to regulate arms to promote the goals of preserving a free state.” The first clause of the Second Amendment references not well-regulated arms but a “well-regulated militia.”

Heller pointed out that, “The Second Amendment is naturally divided into two parts: its prefatory clause and its operative clause. The former does not limit the latter grammatically, but

¹⁷ James Madison, A MEMORIAL AND REMONSTRANCE, ON THE RELIGIOUS RIGHTS OF MAN; WRITTEN IN 1784-5, AT THE REQUEST OF THE RELIGIOUS SOCIETY OF BAPTISTS IN VIRGINIA 41 (1828).

rather announces a purpose.”¹⁸ Either Cornell is misreading the Second Amendment’s text or he is unfamiliar with the *Heller* decision. In either case, he has demonstrated his lack of expertise in this subject.

Cornell at pp. 7-8 cites the Burns’ New Law Dictionary definition of “liberty,” but it does not match any American concept of that term. If anything, it is a profoundly anti-American concept: privilege granted to a select few:

LIBERTY, is a privilege held by grant or prescription, by which men enjoy some benefit beyond the ordinary subject.¹⁹

At p. 8, quoting a “patriotic revolutionary era orator,” “True liberty consists, not in having *no government*, not in a destitution of all law, but in our having an equal voice in the formation and execution of the laws, according as they effect [sic] our persons and property.” The relevance of this quote to this case seems confused. The plaintiffs are not arguing for no government or a “destitution of all law,” but a disagreement about *this* law. Cornell’s reasoning could be equally applied to laws prohibiting free speech, or opponents of warrantless searches; First Amendment or Fourth Amendment opponents of unlimited power to the government are not arguing for anarchy.

At p. 11, Cornell quotes Jud Campbell that “Rather, retained natural rights were aspects of natural liberty that could be restricted only with just cause and only with consent of the body politic.” What Cornell and perhaps Campbell seem to have missed is that the Bill of Rights limits democracy because a majority can, and often does, abuse its power. The recent consequences of panic after 9/11 should be a reminder that even well-intentioned polity’s can blow it.

Cornell continues: “In fact, without robust regulation of arms, it would have been impossible to implement the Second Amendment and its state analogues. Mustering the militia required keeping

¹⁸ *D.C. v. Heller*, 554 U.S. 570, 577 (2008).

¹⁹ Richard Burn and John Burn, A NEW LAW DICTIONARY 79 (1792).

track of who had weapons and included the authority to inspect those weapons and fine individuals who failed to store them safely and keep them in good working order.” Mustering the militia required no such recordkeeping. Colonial and state militia laws did not keep track of who was armed. They imposed a duty to be armed and to show up with those arms on muster day or face fines for failure.²⁰ I am unaware of any safe storage laws of this period, and Cornell cites only a secondary source for a rather important claim. I have a pretty complete collection of colonial and Revolutionary militia laws²¹ and there are no such provisions that I can find.

At pp. 12-13: “The plain text of the Second Amendment not only protects the right to keep and bear arms, it acknowledges that this right is designed to encourage the security of a free state. Actions that undermine this security are clearly not protected by the Amendment.” It is unclear to what Cornell refers. Mass murder (the posited purpose the assault weapons ban) certainly endangers individuals; in no way does it endanger “the security of a free state.”

It is certainly true that a group of men who violently overthrew their lawful government had a strong sympathy for the right of put-upon citizens to rise up in rebellion. The New Hampshire Constitution of 1784: “The doctrine of non-resistance against arbitrary power, and oppression, is absurd, slavish, and destructive of the good and happiness of mankind.”²²

James Madison, author of the Second Amendment, articulated a revolutionary model of arms ownership in *Federalist* 46. At the time, Madison was arguing that the widely demanded Bill of Rights as a limit on the new government’s powers were unnecessary: “The only refuge left

²⁰ A few examples: 1 THE PUBLIC RECORDS OF THE COLONY OF CONNECTICUT, 1636-1776 15 (1850) (“It, it is ordered that all persons shall bare Arms that are above the age of sixteen years except they do tender a sufficient excuse [to] the Corte & the Cort allow the same.”); Charles J. Hoadly, ed., RECORDS OF THE COLONY AND PLANTATION OF NEW HAVEN, FROM 1638 TO 1649 25-26 (1857) (“It is ordered that every one that bares arms shall be completely furnished with arms (viz), a musket, a sword, bandoleers, a rest, a pound of powder, 20 bullets fitted to their musket, or 4 pound of pistol shot or swan shot at least, and be ready to show them in the market place upon Monday the 16th of this Month before Captain Turner and Lieutenant Seely under the penalty 20 s fine for every default or absen[ce].”)

²¹ Clayton E. Cramer, *Militia Statutes*, <https://claytoncramer.com/primary/primary.html#MilitiaLaws>, last accessed July 15, 2023/

²² New Hampshire Const. Part I, .Art. 10 (1784).

for those who prophesy the downfall of the State governments is the visionary supposition that the federal government may previously accumulate a military force for the projects of ambition.” His response to why this was not a serious danger?

Extravagant as the supposition is, let it however be made. Let a regular army, fully equal to the resources of the country, be formed; and let it be entirely at the devotion of the federal government; still it would not be going too far to say, that the State governments, with the people on their side, would be able to repel the danger. *The highest number to which, according to the best computation, a standing army can be carried in any country, does not exceed one hundredth part of the whole number of souls; or one twenty-fifth part of the number able to bear arms. This proportion would not yield, in the United States, an army of more than twenty-five or thirty thousand men. To these would be opposed a militia amounting to near half a million of citizens with arms in their hands, officered by men chosen from among themselves, fighting for their common liberties, and united and conducted by governments possessing their affections and confidence. It may well be doubted, whether a militia thus circumstanced could ever be conquered by such a proportion of regular troops.* Those who are best acquainted with the last successful resistance of this country against the British arms, will be most inclined to deny the possibility of it. *Besides the advantage of being armed, which the Americans possess over the people of almost every other nation, the existence of subordinate governments, to which the people are attached, and by which the militia officers are appointed, forms a barrier against the enterprises of ambition, more insurmountable than any which a simple government of any form can admit of. Notwithstanding the military establishments in the several kingdoms of Europe, which are carried as far as the public resources will bear, the governments are afraid to trust the people with arms.* And it is not certain, that with this aid alone they would not be able to shake off their yokes. But were the people to possess the additional advantages of local governments chosen by themselves, who could collect the national will and direct the national force, and of officers appointed out of the militia, by these governments, and attached both to them and to the militia, it may be affirmed with the greatest assurance, that the throne of every tyranny in Europe would be speedily overturned in spite of the legions which surround it.²³ [emphasis added]

Responding to Shays’ Rebellion in 1786, Jefferson argued that it was not such a bad thing:

et where does this anarchy exist? Where did it ever exist, except in the single instance of Massachusetts? And can history produce an instance of a rebellion so honorably conducted? I say nothing of its motives. They were founded in ignorance, not wickedness. God forbid we should ever be 20 years without such a rebellion. The people cannot be all, and always, well informed. The part which

²³ James Madison, *Federalist* 46.

is wrong will be discontented in proportion to the importance of the facts they misconceive. If they remain quiet under such misconceptions it is a lethargy, the forerunner of death to the public liberty. We have had 13. states independent 11 years. There has been one rebellion. That comes to one rebellion in a century and a half for each state. What country before ever existed a century and half without a rebellion? *And what country can preserve its liberties if their rulers are not warned from time to time that their people preserve the spirit of resistance? Let them take arms. The remedy is to set them right as to facts, pardon and pacify them. What signify a few lives lost in a century or two?* The tree of liberty must be refreshed from time to time with the blood of patriots and tyrants. It is its natural manure.²⁴ [emphasis added]

To summarize, if that national government created a standing army, it would be grossly outnumbered by the armed population who with the assistance of state governments directing it would rapidly overthrow such a project of ambition.

If Cornell is arguing that assault weapons might be a danger to the security of the government, James Madison and Thomas Jefferson would certainly agree and likely applaud. This is doubtless unpleasant news to those in charge of our current governments, but it was clearly part of the Founders' mindset.

At p. 10: "The individual states also imposed loyalty oaths, disarming those who refused to take such oaths. No state imposed a similar oath as pre-requisite to the exercise of First Amendment-type liberties."

In 1777, Pennsylvania responded to concerns that Loyalists might be a fifth column by passing a law that provided that those of militia age refusing to swear an oath of loyalty to the Revolutionary governments were prohibited from "holding any office or place of trust in this state, serving on juries, suing for any debts, electing or being elected, buying, selling or transferring any lands, tenements or

²⁴ Thomas Jefferson to William Smith, Nov. 13, 1787, Library of Congress, <https://www.loc.gov/exhibits/jefferson/105.html>, last accessed July 17, 2023.

hereditaments, and shall be disarmed by the lieutenant or sub-lieutenant of the city or counties respectively.”

Massachusetts’ similar Test Act:

That every male person above sixteen years of age, resident in any town or place in this colony, who shall neglect or refuse to subscribe a printed or written declaration, of the form and tenor hereinafter prescribed, upon being required thereto by the committee of correspondence, inspection and safety, shall be disarmed, and have taken from him, in manner hereafter directed, all such arms, ammunition and warlike implements, as, by the strictest search, can be found in his possession or belonging to him...²⁵

Like its cousins in other states, refusing the oath disqualified one for any public office, work as a minister, voting, or teaching.²⁶ Cornell could easily use these wartime emergency acts as justification today for restrictions on transferring property, voting, teaching, or preaching the gospel.

Abuses of civil liberties were widespread during the chaos of the Revolution. Thomas Jefferson drafted a bill of attainder passed by the Virginia Legislature in 1778.²⁷ In Cornell’s model, the U.S. Constitution’s prohibition on Bills of Attainder²⁸ can be safely ignored.

C. Arms vs. Accoutrements²⁹

1. Cartridge-Boxes Are Not Magazines

At pp. 13-15, Cornell seeks to distinguish magazines from arms, by observing that cartridge-boxes were considered accoutrements, not arms. This I do not dispute. A rifleman of 1791 could easily dispense with a cartridge-box and carry cartridges in his pocket. He might simply carry black powder in a powder horn and bullets in his pocket. A 1791 cartridge-box is

²⁵ 5 Acts and Resolve, Public and Private, of the Province of the Massachusetts Bay 479 (1886), ch. 21.

²⁶ Ibid. 481.

²⁷ William M. Burwell, Address Delivered Before the Society of Alumni of the University of Virginia 446-47 (1847).

²⁸ U.S. Const., Art. I, § 9, cl. 3.

²⁹ This section applies equally to the report and contentions of Dennis Baron.

functionally identical to a modern cartridge box. It is a place where you store ammunition until you are ready to use it. No amount of clever use of search terms in large bodies of text will change this.

2. Magazines Are Part of the Firearm

Magazines in a semiautomatic firearm (or even a lever action or bolt-action firearm) regardless of capacity or if they are detachable are a fundamental part of the weapon. Without a magazine, you must reload for every shot. This is a slow and inconvenient process. For target shooting, this might be an acceptable choice. For self-defense or hunting, this is impractical. If the court doubts this, ask your bailiff if he would want to maintain order in the courtroom with a single-shot pistol.

All semiautomatic firearms come with a magazine, either detachable or as part of the gun for fixed-magazine firearms (usually shotguns and some rifles). I have never seen a semiautomatic firearm sold without a magazine; it is part of the gun. And, in fact, the very New Jersey magazine law being challenged in this lawsuit defines “Large capacity ammunition magazine” in terms of its function to feed ammunition “continuously and directly therefrom into a semi-automatic firearm.” N.J.S. 2C:39-1(y). The banned magazines are feeding devices and are part of the firearms. They are nothing like cartridge boxes.

If the question is whether a Large Capacity Magazine or a detachable magazine is necessary, again, ask a bailiff or any police officer. While the risks they face are more common than an ordinary citizen, they are not fundamentally different in quality. Someone who breaks into your home or assaults you on the street may require more than one shot to cause them to cease being a threat to your life. Under the stress of a life-threatening incident, not every shot will hit

your attacker; not every shot that hits your attacker will be sufficiently well-placed to stop the attack. If there are multiple attackers, a ten round magazine may not be sufficient.

Even with an LCM ban, the effectiveness of LCM bans for reducing mass murder is not well-established. In the aftermath of the 2018 Parkland shooting:

Several state legislators who visited the school with crime-scene investigators said they learned from police that Cruz's rifle was not top-of-the-line, perhaps explaining the malfunction.

The "weapon and bullets were not high quality and were breaking apart," one of the legislators, state Sen. Lauren Book, D-Plantation, told the Herald.

Cruz went in with only 10-round magazines because larger clips would not fit in his duffel bag, Book said.³⁰

Nearly any shooter can with a few minutes practice do magazine swaps in less than a second. Limiting magazines to a 10-round capacity would be of very limited value for reducing mass murder. The only circumstances in which a 10-round limit might matter would be if a courageous bystander took advantage of the second or less required for a magazine swap. While such interventions have happened, the circumstances are a bit more complex than portrayed by advocates of LCM bans: "[murderer's name redacted] fired all 31 bullets in the magazine and was reloading when a woman in the crowd, already wounded, attempted to grab the gun from him. He finally changed the magazine and tried to fire, but the gun jammed. Meanwhile, two men from the crowd grabbed him and subdued him, officials said."³¹

Similarly, the Clackamas Mall shooting in December, 2012, ended with fewer dead than was likely the murderer's intentions because: "[The sheriff] said the death toll would have been

³⁰ Nicholas Nehamas and David Smiley, *Florida School Shooter's AR-15 May Have Jammed, Saving Lives, Report Says*, MIAMI HERALD, Feb. 27, 2018.

³¹ Sam Quinones and Michael Muskal, *Jared Loughner to be charged in Arizona shootings targeting Gabrielle Giffords*, Los Angeles Times, Jan. 9, 2011.

higher had the shooter's assault rifle not jammed and law enforcement not responded within minutes of the first shot.”³²

I would add from personal experience that many larger magazines, if loaded to full stated capacity, often jam on the first few rounds until the magazine spring has had a chance to “set” in the fully compressed state after a few months fully loaded. Experienced shooters know this. Noteworthy is that the Clackamas Mall shooter stole the AR-15 “the day before from someone he knew,”³³ and likely did not know this. Giffords’ shooter was using a 31-round magazine,³⁴ which is larger than the factory magazine, and others in the crowd may have survived because the next magazine he loaded jammed the gun. They at least suggest LCMs are exaggerated in their dangerousness.

3. Pistols in Colonial America

At p. 19: “Nobody bayoneted turkeys, and pistols were of limited utility for anyone outside of a small elite group of wealthy, powerful, and influential men who needed these weapons if they were forced to face an opponent on the field of honor in a duel, as the tragic fate of Alexander Hamilton so vividly illustrates.”

Bayonets are not a firearms technology, nor are they regularly included with a firearm for sale. I have certainly never seen one included with a gun, nor does this case involve bayonet regulation. (I cannot recall reading of any mass murders involving bayonets in recent years.)

Cornell’s assumption of who owned pistols and why reflects, I think, Cornell’s single source, a book about dueling by people in national politics. 47. How common were pistols before

³² John Bacon, *Oregon mall shooter, victims identified*, *USA Today*, Dec. 11, 2012.

³³ *Id.*

³⁴ Sam Quinones and Michael Muskal, *Jared Loughner to be charged in Arizona shootings targeting Gabrielle Giffords*, *Los Angeles Times*, Jan. 9, 2011.

the Revolution? The evidence from archaeological digs, probate inventories, advertising, and from surviving pistols demonstrates that Americans made handguns before the Revolution; that there was a civilian market for them in at least some cities; and that pistol ownership was unremarkable. An analysis of all Plymouth Colony probate inventories found that of 339 listed firearms, forty-four, or thirteen percent, were pistols, and 54.5 percent of lead projectiles recovered from Plymouth Colony digs were pistol bullets.³⁵

On August 22, 1775, the New-York Provincial Congress ordered the militia to arm themselves; Calvarymen were obligated to provide themselves with “a case of pistols, and a carbine.” Every man 16 to 50 was to “furnish himself” with either a long gun or “a case of pistols.”³⁶ (How many pistols were in one case? At least one.)

While Americans made pistols early in the eighteenth century, most colonists preferred to buy pistols imported from Britain, perhaps because of price or prestige. Only a few pre-Revolutionary War American-made pistols have survived.³⁷ Surviving pistols made for William Smith of Farmington, Connecticut by Medad Hills in 1771, were equipped with American-made barrels, and apparently English locks.³⁸

³⁵ Plymouth Archaeological Rediscovery Project, “Firearms in Plymouth Colony” (2002), Tables 1 and 4, available at <https://www.plymoutharch.com/wp-content/uploads/2014/11/62869457-Firearms-in-Plymouth.pdf>, last accessed March 1, 2023.

³⁶ Peter Force, ed., 3 American Archives, 4th ser., 665-6 (1840).

³⁷ Harold L. Peterson, ARMS AND ARMOR IN COLONIAL AMERICA: 1526-1783 213-14, 202, 205, 209 (1956); M.L. Brown, FIREARMS IN COLONIAL AMERICA: THE IMPACT ON HISTORY AND TECHNOLOGY 1492-1792 312 (1980); Frank Klay, THE SAMUEL E. DYKE COLLECTION OF KENTUCKY PISTOLS 4-15 (1972); Felicia Johnson Deyrup, ARMS MAKERS OF THE CONNECTICUT VALLEY: A REGIONAL STUDY OF THE ECONOMIC DEVELOPMENT OF THE SMALL ARMS INDUSTRY, 1798-1870 34 (1948).

³⁸ George A. Stickels, *The William Smith Pistols Made by Medad Hills*, THE GUN REPORT 10-12 (September, 1979).

Advertising and news reports show that merchants offered pistols for sale in Colonial America. Such ads appear in the *Boston Gazette* as early as 1720. Sampling ads from the 1741-1742 period reveals at least two different merchants offering pistols for sale.³⁹

A gang of robbers, having terrorized New York City, moved on to Philadelphia in 1749. A newspaper account of their crimes reported that, “two Men, unknown, were lately at Mr. Rush's, a Gun smith, enquiring for six Pair of Pocket Pistols, to make up twelve Pair, having as they said, got the six Pair at some other Place.”⁴⁰ In 1772 and 1773, Heinrich Diebenberger advertised in Pennsylvania newspapers that he sold pistols,⁴¹ as did Henry Deabarear, who sold “pistols for holsters and the pocket....” Philadelphia merchants advertised pistols for sale repeatedly from 1744 onward.⁴² A 1745 ad in the PENNSYLVANIA GAZETTE, offered “ship muskets, *pistols*, cut lashes and poleaxes, gunpowder, lead, shot and bullets, English and French gun flints.”⁴³ [emphasis added]

Pistols appear in journals and newspaper articles throughout the colonial period—and while the crimes committed with them are sometimes shocking, the *presence* of pistols is never remarkable. Governor John Winthrop made several references to pistols in New England in the nineteen years that his journal covers. One was a 1641 theological dispute at Pascataquack (now Dover, New Hampshire) that led the factions to arm themselves and march, at least one member

³⁹ BOSTON GAZETTE issues with one or more ads offering pistols: May 30, 1720, November 17, 1741, December 8, 1741, February 2, 1742, May 11, 1742, May 18, 1742, May 25, 1742, July 13, 1742, August 10, 1742, August 24, 1742, August 31, 1742, [September 13?], 1742.

⁴⁰ PENNSYLVANIA GAZETTE, August 31, 1749.

⁴¹ September 4, 1772 and September 14, 1773, WOCHTENLICHTER PENNSYLVANISCHE STAATSBOTE, translated and quoted in James Whisker, THE GUNSMITH'S TRADE 159-160 (Lewiston, N.Y.: Edwin Mellen Press, 1992).

⁴² *Pennsylvania Gazette*, November 1, 1744; September 26, 1745; October 3, 1745; October 17, 1745; February 11, 1746; July 17, 1746; July 30, 1747; May 12, 1748; September 15, 1748; October 25, 1750; November 27, 1755; August 2, 1759; February 11, 1762; April 14, 1763; May 19, 1763; April 12, 1764; April 19, 1764; August 16, 1770; May 28, 1772; February 17, 1773; September 15, 1773.

⁴³ *Just imported by Hamilton, Wallace and Company, in the Ship*, PENNSYLVANIA GAZETTE, Sep. 26, 1745, Oct. 3, 1745.

identified as armed with a pistol. There were murders with pistols at Stamford, Connecticut and at Penobscott in 1644, and an attempted murder with a pistol at Cape Sable in 1646.⁴⁴ Pistols appear in other places in Winthrop's Journal.⁴⁵ Winthrop never expressed any surprise over the presence of pistols.

An accident in New York City in 1745: "a young Gentleman having been on board the Clinton Privateer, then going out, had a Pair of *Pistols* given him; which on his coming on Shore he carried into a Publick House, among some of his Acquaintance, where one of them was found to be loaded; upon which several Attempts were made to discharge it; but it missing Fire, he sat down in order to amend the Flint; in doing of which, the *Pistol* unhappily went off, and shot Mr. Thomas Cox, Butcher, through the Head..."⁴⁶ [emphasis in original]

Many eighteenth century accounts also mention pistols. Eliza Lucas Pinckney described the suicide of Anne LeBrasseur with a pistol as "melancholy and shocking," but newspaper accounts suggest that what was shocking was not the weapon, but that she was "a Disciple of Mr. Whitefield's" (the noted evangelist).⁴⁷ In 1749, the PENNSYLVANIA GAZETTE reported that, "Sunday night last, about eight a Clock, Richard Green, coming to Town from Kensington, was stopped on the Road, and his Money demanded, by two Men with Pistols...."⁴⁸ There are other examples available in the PENNSYLVANIA GAZETTE of the criminal misuse of and accidental deaths from pistols; they are never described as surprising.⁴⁹ Pistols appear among the South Carolina

⁴⁴ John Winthrop, 2 WINTHROP'S JOURNAL: "HISTORY OF NEW ENGLAND", 27, 153, 180, 275 (1908).

⁴⁵ *Id.*, at 95, 151,

⁴⁶ NEW YORK, October 28. *Monday Evening last a very melancholy*, PENNSYLVANIA GAZETTE, OCT. 31, 1745.

⁴⁷ Eliza Lucas Pinckney, Elise Pinckney, ed., THE LETTERBOOK OF ELIZA LUCAS PINCKNEY 42, 42 n. 55 (1997).

⁴⁸ *By the last Post from New York...*, PENNSYLVANIA GAZETTE, Aug. 31, 1749.

⁴⁹ *Monday Evening last a very melancholy...*, PENNSYLVANIA GAZETTE, Oct. 31, 1745; Last Friday one Hunt, a lime seller in this..., PENNSYLVANIA GAZETTE, Apr. 20, 1749.

Regulators and the criminals to whom they administered frontier justice.⁵⁰ Nor was there any surprise when pistols appear in the hands of the law-abiding, such as a description of Rev. Whitfield preaching in Massachusetts, “he was attended by many Friends with Muskets and Pistols on Account of the Indians....”⁵¹

Pistols appear in news reports: This came from New York in 1775, describing events before March 23 (so before the Revolutionary War started):

The sheriff came to the courthouse, and demanded entrance, which was refused him; and whilst struggling to enter the door, he received a blow upon his head, which leveled him with the ground: Having recovered a little, he arose and discharged a *pistol* among the opposers, and commanded the Court party to fire also; when, as Mr. Langdon supposes, about five of them fired. Mr. French, one of the opposers, was killed by a ball's being lodged in his head, and two more of the same party were also wounded. The sheriff and the Court party then entered the courthouse. The populace without discharged a gun and two *pistols*.⁵² [emphasis added]

Many news accounts report pistols being used by people far removed from “wealthy, powerful, and influential.”⁵³

A London gun-maker complained in the SOUTH CAROLINA GAZETTE that “a Person in the Country in putting my Name and *London* on some parcels of Guns and Pistols” apparently not proofed (as English law required) thus creating a risk to his reputation.⁵⁴ A 1766 ad in the SUPPLEMENT TO THE SOUTH CAROLINA GAZETTE; AND COUNTRY JOURNAL offered “brass barrel pistols.”⁵⁵

⁵⁰ Richard Maxwell Brown, THE SOUTH CAROLINA REGULATORS 35, 40, 54 (1963).

⁵¹ *Last Monday Capt. Tyng in the Massachusetts...*, PENNSYLVANIA GAZETTE, Aug. 15, 1745.

⁵² *MR. Mark Langdon, from Westminster, in the...*, VIRGINIA GAZETTE, Apr. 22, 1775.

⁵³ BY THE LAST POST FROM NEW YORK..., PENNSYLVANIA GAZETTE, Aug. 31, 1749.

⁵⁴ *To the Publick*, SOUTH CAROLINA GAZETTE, DEC. 26, 1743.

⁵⁵ *GUERIN & WILLIAMSON, Have just imported in the London*, SUPPLEMENT TO THE SOUTH CAROLINA GAZETTE; AND COUNTRY JOURNAL, Jun. 24, 1766, Jul. 1, 1766, Jul. 8, 1766

Enough pistols were present in private hands in Pennsylvania in 1774 for the legislature to include handguns in a law regulating New Year's Day festivities. This statute made it illegal for "any person or persons shall, on any thirty-first day of December, or first or second day of January, in every year, wantonly, and without reasonable occasion, discharge and fire off any handgun, pistol, or other firearms, or shall cast, throw or fire any squibs, rockets or other fireworks, within the inhabited parts of this province...."⁵⁶



PAUL REVERE'S VERY COMPACT POCKET PISTOL

57

My search through newspapers from the 1730s through 1760s at Accessible Archives for "pistol" showed 2,962 matches.⁵⁸ Some of these are militia use references, some are references to a coin of that time, and some to a type of cloth called pistol. A few are references to foreign news events; some news accounts appear in multiple newspapers, still it is pretty apparent that Cornell's

⁵⁶ *An ACT to suppress the disorderly practice of FIRING GUNS*, &c., PENNSYLVANIA GAZETTE, Dec. 28, 1774.

⁵⁷ Photograph by Clayton E. Cramer at the Massachusetts Historical Society.

⁵⁸ Accessible Archives is a proprietary data base. I searched for "pistol" in all newspapers for the 1730s through 1760s.

claim about the scarcity of pistols outside of those being used by the elite for dueling is utterly wrong and shows a limited knowledge of the period for which he has “expert” opinions.

4. Black Powder

At p. 18:

Limits in Founding-era firearms technology also militated against the use of guns as effective tools of interpersonal violence in this period. Eighteenth-century muzzle-loading weapons, especially muskets, took too long to load and were therefore seldom used to commit crimes. Nor was keeping guns loaded a viable option because the black powder used in these weapons was not only corrosive, but it attracted moisture like a sponge.... The preference for storing them unloaded also meant they posed fewer dangers to children from accidental discharge.

This is a perfectly logical statement, but the documents left by colonial Americans show that they did not follow it very consistently. As mentioned above, people unloaded firearms in public places with tragic results. Massachusetts Governor Winthrop’s journal reports several accidental deaths or injuries caused by colonists failing to follow this very logical action:

At a training at Watertown, a man of John Oldham's, having a musket, which had been long charged with pistol bullets, not knowing of it, gave fire, and shot three men, two into their bodies, and one into his hands; but it was so far off, as the shot entered the skin and stayed there, and they all recovered.⁵⁹

And:

Three men coming in a shallop from Braintree, the wind taking them short at Castle Island, one of them stepping forward to hand the sail, caused a fowling piece with a French lock, which lay in the boat, to go off. The whole charge went through the thigh of one man within one inch of his belly, yet missed the bone, then the shot (being goose shot) scattered a little and struck the second man under his right side upon his breast, so as above 40 shot entered his body, many into the capacity of his breast.⁶⁰

⁵⁹ John Winthrop, James Kendall Hosmer, ed., 1 *Winthrop’s Journal: “History of New England” 1630-1649* (1908), 83.

⁶⁰ *Id.* 2:55.

And with reference to Cornell's claim at p. 18: "The preference for storing them unloaded also meant they posed fewer dangers to children from accidental discharge":

It is observable that this man had gathered some providences about such as were against them, as that Mr. Winslow's horse died, as he came riding to Boston; that *his brother's son (a child of eight years old) had killed his own sister (being ten years of age) with his father's piece*, etc., and his great trouble was, least this providence which now befell him, should be imputed to their cause.⁶¹ [emphasis added]

And:

One Richard Sylvester, having three small children, he and his wife going to the assembly, upon the Lord's day, left their children at home. The eldest was without doors looking to some cattle ; the middle-most, being a son about five years old, seeing his father's fowling piece, (being a very great one,) stand in the chimney, took it and laid it upon a stool, as he had seen his father do, and pulled up the cock, (the spring being weak,) and put down the hammer, then went to the other end and blowed in the mouth of the piece, as he had seen his father also do, and with that stirring the piece, being charged, it went off, and shot the child into the mouth and through his head.⁶²

These four incidents of firearms kept loaded when not in active use resulting in serious misadventure are in *one* book. How many of these loaded firearms sat quietly in their place, never accidentally discharging? How many incidents are in books that I have not read? Perhaps if Cornell was well-read in colonial documents, he would know enough to know about colonial practices to be an expert. The relevance of this claim to the proposed law is unclear. Did Cornell just copy and paste this section from a declaration where this was relevant?

Finally, there is one more piece of evidence that Americans kept firearms loaded when not ready for use. In 1783, Massachusetts passed a statute that shows firearms were kept loaded regularly enough to justify a law regulating the practice.

⁶¹ *Id.*, 2:317.

⁶² *Id.*, 2:72.

The preamble “WHEREAS the depositing of loaded arms in the houses of the town of Boston, is dangerous to the lives of those who are disposed to exert themselves when a fire happens to break out in the said town” establishes that it was a fire safety measure.

Sect. 2. And be it further enacted by the authority aforesaid, That all canon, swivels, mortars, howitzers, cohorns, fire-arms, grenades, and iron shells of any kind, that shall be found in any dwelling-house, out-house, stable, barn, store, ware-house, shop, or other building, charged with, or having any dwelling in them any gun-powder, shall be liable to be seized by either of the Firewards of the said town...

You were free to keep small arms, cannon, small artillery, bombs, and grenades at home, as long as they were unloaded. Why was there a need for such a law unless firearms (and artillery) were at least occasionally left loaded? Would we pass a law today ordering that you not leave children unsupervised at a pool if no one did this?

Cornell knows about this ordinance; he first brought it to my attention by email some years back.

D. Firearms Regulation in Antebellum America

At p. 32, Cornell makes a misleading reference to *Brown v. Maryland*, (1827): The regulation of firearms and ammunition was singled out as the quintessential example of state police power.” The decision involved not gunpowder or even police power, but a state requirement

[T]hat all importers of foreign articles or commodities, of dry goods, wares, or merchandise, by bale or package, or of wine, rum, brandy, whiskey and other distilled spirituous liquors, &c. and other persons selling the same by wholesale, bale or package, hogshead, barrel, or tierce, shall, before they are authorized to sell, take out a license, as by the original act is directed, for which they shall pay fifty dollars...⁶³

⁶³ *Brown v. Maryland*, 25 US 419, 436 (1827).

The *Brown* decision was based on the Dormant Commerce Clause. The reference to gunpowder was in response to a hypothetical by Maryland: “He may sell by retail, at auction, or as an itinerant pedlar. He may introduce articles, as gunpowder, which endanger a city, into the midst of its population; he may introduce articles which endanger the public health, and the power of self-preservation is denied.” Chief Justice Marshall’s decision quoted by Cornell was: “The power to direct the removal of gunpowder is a branch of the police power, which unquestionably remains, and ought to remain, with the States.”⁶⁴ It was “a branch of the police power,” not “the quintessential example.” The hazard of storing gunpowder in a crowded city is clear; it may explode without human agency and represents an enormous risk to persons perhaps far removed from the gunpowder. If Cornell wants to liken the risk of assault weapon or LCM ownership to gunpowder storage, he needs a much clearer explanation of that parallel.

At 35, Cornell also quotes from the *License Cases* (1847) to justify what seems to be a nearly unlimited police power of the state:

It is not susceptible of an exact limitation, but must be exercised under the changing exigencies of society. In the progress of population, of wealth, and of civilization, new and vicious indulgences spring up, which require restraints that can only be imposed by new legislative power. When this power shall be exerted, how far it shall be carried, and where it shall cease, must mainly depend upon the evil to be remedied.

This understanding of the nearly unlimited authority of the state by invoking the magic incantation “new and vicious indulgences” makes the entire Bill of Rights null and void. If a state decided that sodomy and divorce were “new and vicious indulgences,” the state would enjoy unlimited power to prohibit these actions.

⁶⁴ *Id.* at 443.

Cornell at p. 35 quotes selectively from *State v. Reid* (Ala. 1840) to claim that “‘The terms in which this provision is phrased,’ the court noted, ‘leave with the Legislature the authority to adopt such regulations of police, as may be dictated by the safety of the people and the advancement of public morals.’”

The following paragraph of *Reid* admits

We do not desire to be understood as maintaining, that in regulating the manner of bearing arms, the authority of the Legislature has no other limit than its own discretion. A statute which, *under the presence of regulating, amounts to a destruction of the right, or which requires arms to be so borne as to render them wholly useless for the purpose of defense, would be clearly unconstitutional.*⁶⁵
[emphasis added]

I do not see how Cornell missed this utter rejection of his claim, two sentences later.

At p. 35 n. 121: “Apart from rare outlier decisions, such as *Bliss v. Commonwealth*, 12 Ky. (2 Litt.) 90, 92 (1822) courts employed a police power framework to adjudicate claims about the scope of state power to regulate arms. For a useful discussion of *Bliss* in terms of the police power, see FREUND, *supra* note 95, at 91.” Cornell might have benefitted from reading the primary sources, as historians try to do, instead of relying on a clearly flawed secondary source. Of course, this would require Cornell becoming familiar with the subject than he has along with *Bliss*, many other decisions decided the “scope of state power to regulate arms,” often explicitly recognizing a right to open carry based on their state constitutions, and in some cases the Second Amendment, not the rarely mentioned “police power.”⁶⁶

⁶⁵ *State v. Reid*, 1 Ala. 612, 616, 617, 35 Am. Dec. 44 (1840).

⁶⁶ Just a few examples: *Bliss v. Commonwealth*, 2 Littell 90, 13 Am. Dec. 251 (Ky. 1822) (struck down a ban on carrying concealed weapons based on state constitution); *Simpson v. State*, 5 Yerg. 356 (Tenn. 1833) (struck down a conviction for “with force and arms,... being arrayed in a warlike manner, then and there in a certain public street and highway situate, unlawfully, and to the great terror and disturbance of divers good citizens of the said state, then and there being, an affray did make,” because “the freemen of this state have a right to keep and to bear arms for their common defense.” Tenn. Const. Article 11, sec. 26); *Aymette v. State*, 2 Hump. (21 Tenn.) 154, 155, 156, 158 (1840) (upheld a ban on concealed carry of a Bowie knife because the Tennessee Constitution only protected weapons of war: “The free white men may keep arms to protect the public liberty, to keep in awe those who are in power, and to maintain the supremacy of the laws and the constitution.”); *State v. Reid*, 1 Ala. 612 (1840) (“A statute which, under

E. Post-1868 Evidence

Cornell insists at pp. 38-39: “As long as state and local laws were racially neutral and favored no person over any other, the people themselves, acting through their representatives, were free to enact reasonable measures necessary to promote public safety and further the common good.” Had Cornell read *McDonald v. Chicago* (2010) he would know that it was precisely the racial discrimination of the Black Codes that caused the 14th Amendment to limit state authority in this area.⁶⁷ This was the basis by which *McDonald* incorporated the Second Amendment against the states.⁶⁸

F. Summary

Cornell misrepresents the broadness of the carryover of English law to the American colonies. He lists three states that apparently must stand in for all thirteen former colonies and even these two of these three are clear that later statutes (presumably including post-Revolutionary state constitutions) take precedence. In Massachusetts, only a few aspects of English law carried over to the new state.

He misrepresents Blackstone about the importance of conserving the peace; argues for a unlimited democracy that the Bill of Rights exists to prevent; He misrepresents how the militia laws and the Test Acts worked.

the presence of regulating, amounts to a destruction of the right, or which requires arms to be so borne as to render them wholly useless for the purpose of defense, would be clearly unconstitutional.”); *Owen v. State*, 31 Ala. 387 (1858) (upheld a ban on concealed carry, but “That section was not designed to destroy the right, guaranteed by the constitution to every citizen, “to bear arms in defense of himself and the State”; nor to require them to be so borne, as to render them useless for the purpose of defense.”); 3 Iredell 418, 423 (N.C. 1843) (Upholding a conviction of a bully running around armed and threatening people: “For any lawful purpose--either of business or amusement--the citizen is at perfect liberty to carry his gun. It is the wicked purpose, and the mischievous result, which essentially constitute the crime. He shall not carry about this or any other weapon of death to terrify and alarm, and in such manner as naturally will terrify and alarm a peaceful people.”)

⁶⁷ *McDonald v. City of Chicago*, 561 U.S. 742, 779 (2010)

⁶⁸ *Id.* at 790.

He misrepresents *State v. Reid* (Ala. 1840); misuses Dormant Commerce Clause cases to argue for an unlimited power of the states to regulate everything with no power of the Bill of Rights to counter such abuses of majority power.

Cornell attempts to use post-1868 laws contrary to *Bruen*'s clear instructions.

III. Louis Klarevas

This Rebuttal to Louis Klarevas demonstrates that his claims about mass murder rate change are very questionable.

A. Intentional Criminal Acts

At ¶11: “It is my professional opinion, based upon my extensive review and analysis of the data, that (1) in terms of individual acts of intentional criminal violence, mass shootings presently pose the deadliest threat to the safety of American society in the post-9/11 era, and the problem is growing nationwide.” This is one of those claims that on its face is so obviously wrong that he must be leaving something out of his claim. There have been 543 mass murders since 2006 (of which some do not involve firearms) with 2,829 dead.⁶⁹ (I picked 2006 because there was an available dataset.) Yet the FBI reports there were 13,477 homicide incidents in 2021, 17,815 murders in 2020, 14,548 in 2019, with the lowest number since 2011 being 12,312 in 2014.⁷⁰ There were 170,206 total murders 2011 through 2021. Somehow mass murders from all years 2006 through 2021 are 1.7% of the *total* murders in the years 2011 through 2021, and mass murders are the biggest threat of “individual acts of intentional criminal violence”?

⁶⁹ *Mass killing database: Revealing trends, details and anguish of every US event since 2006*, *USA Today*, Mar. 29, 2023. *See Number of mass killing victims killed per year*. In 2022, there were 24 non-gun mass murder victims; in 2021, 18; in 2020, 18.

⁷⁰ FBI, *Expanded Homicide Offense Counts in the United States*, <https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/shr>, last accessed April 1, 2023. FBI, Crime Data Explorer for 2021 Homicide, <https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend>, last accessed July 15, 2023.

B. Errors of History

At ¶11: “mass shootings resulting in double-digit fatalities are relatively modern phenomena in American history, largely related to the use of assault weapons and LCMs”: Mass murders with double-digit fatalities without LCMs are surprisingly common in American history⁷¹ and not a recent phenomenon. Here the “expert” shows the questionable nature of his database.

The mass murderer at the University of Texas in 1966 murdered fourteen people.⁷² He was a skilled marksman using a very traditional hunting rifle: a Remington 700. He also had two more rifles, a shotgun, and three pistols with him.⁷³ The Navy Yard mass murderer used a pump-action Remington 870 shotgun to murder 12.⁷⁴

C. Those Other Mass Murders Do Not Count

At ¶11, “high-fatality mass shootings involving assault weapons and/or LCMs, on average, have resulted in a substantially larger loss of life than similar incidents that did not involve assault weapons and/or LCMs...” By similar incidents, I presume he means firearms mass murders *only*.

Of course, mass murder does not require a firearm of any sort. Non-firearm double-digit mass murders are by no means particularly modern aspects of American history. On Christmas Eve, 1913, a man shouted, “Fire! Fire! Everybody rush!” in the Italian Hall where striking miners and their families were having a Christmas party. (There was no fire.) As the crowd attempted to

⁷¹ 150 dead in the 1873 Colfax, La., Massacre, 140 dead in the Mountain Meadows, Utah Massacre, 74 dead in the Calumet, Mich. Trampling incident; at least 100 killed in the 1921 Tulsa riot; 95 murdered in an arson of a school in 1958 Chicago,

⁷² Charles Bowden, *The Men Who Stopped a Mass Murderer*, Esquire, Aug. 26, 2021, <https://www.esquire.com/news-politics/a36890935/charles-whitman-mass-shooting-university-of-texas/>, last accessed February 6, 2023.

⁷³ Craig Hlavaty, *Rifle Reported To Be Used In Charles Whitman Killing Spree Up For Sale*, Houston Chronicle, Sep. 24, 2014, <https://www.chron.com/news/houston-texas/texas/article/Rifle-reported-to-be-used-in-Charles-Whitman-5777479.php>, last accessed February 6, 2023.

⁷⁴ Greg Botelho and Joe Sterling, FBI: Navy Yard shooter ‘delusional,’ said ‘low frequency attacks’ drove him to kill, CNN, Sep. 26, 2013.

exit the hall through an inadequate exit, seventy-four people (mostly children) were trampled to death.⁷⁵ One account ascribed the false claim to “a drunken” man,⁷⁶ but considering the murder of strikebreakers in Calumet a few weeks before in the middle of a fierce labor dispute,⁷⁷ this seems unlikely as the cause.⁷⁸ 11. June 24, 1973: The murderer took revenge for being expelled from the UpStairs Lounge, a gay bar. He walked down the street and bought a bottle of cigarette lighter fluid, killing 33 people.⁷⁹

The five largest mass murders in U.S. history have been with airplanes,⁸⁰ explosives,⁸¹ and flammable liquids.⁸² Klarevas cannot discount these other mass murders as terrorist acts as he includes terrorist firearms mass murders at Fort Hood, TX and San Bernardino, CA in his Table 6 of mass shootings.

This unwillingness to include non-firearms mass murders is questionable. Other experts on mass murder have responded to my list of early American mass murders by discounting the mass murders of children:

The husband who attacked his family with an axe in Clarksburg, Virginia, in 1805 killed only one adult, his wife. His other eight victims were his children. And the husband who attacked his family with a knife in Hallowell, Maine, in 1806 killed only one adult, his wife. His other 7 victims were his children. Cramer’s evidence does not show that edged and blunt weapons are effective tools for committing mass murder. It shows instead that infants and children are not capable of defending themselves against attacks by adults. That conclusion is consistent with the extensive literature in contemporary criminology that

⁷⁵ *Ore Miner Charged Eight-Seven Cents for Month’s Labor*, OMAHA DAILY BEE, Feb. 12, 1914, 1.

⁷⁶ *Day of Joy is One of Sorrow*, [Valley City, N.D.] *Weekly Times-Record*, Jan. 1, 1914, 6.

⁷⁷ *Strike Breakers Taken to Mines at Point of Pistols*, *Omaha Daily Bee*, Jan. 11, 1914, 1 (based on U.S. Dept. of Labor report).

⁷⁸ *Ore Miner Charged Eight-Seven Cents for Month’s Labor*, OMAHA DAILY BEE, Feb. 12, 1914, 1.

⁷⁹ Elisabeth Dias with Jim Down, *The Horror Upstairs*, TIME, Jul. 1, 2013.

⁸⁰ David B. Caruso, *Official 9/11 death toll grows by 1 nearly a decade later*, HOUSTON CHRONICLE, Jun. 17, 2011. (2,753 dead at World Trade Center); *Accused 9/11 plotter Khalid Sheikh Mohammed faces New York trial*, CNN, November 13, 2009. (146 at Pentagon).

⁸¹ Elizabeth Chuck, *Twenty Years Later: The People in the Oklahoma City Bombing*, NBC NEWS, Apr. 18, 2015.

⁸² Richard W. Bukowski, P.E. and Robert C. Spetzler, *Analysis Of The Happyland Social Club Fire With Hazard I*, 4(4) JOURNAL OF FIRE PROTECTION ENGINEERING, 117-131, (1992), (87 dead); *Dupont Plaza Hotel Fire Puerto Rico 1986*, NIST ENGINEERING LABORATORY, <https://www.nist.gov/el/dupont-plaza-hotel-fire-puerto-rico-1986>, last accessed November 17, 2017. (98 dead).

shows that young children are killed in the overwhelming majority of cases with weapons other than firearms, because adults can kill children so easily with physical force or everyday household objects.⁸³

I guess we can ignore mass murders of children in justifying LCM bans.

1. Effectiveness of Assault Weapon Bans

At ¶11: “states that restrict both assault weapons and LCMs experience fewer high-fatality mass shooting incidents and fatalities, per capita, than states that do not restrict assault weapons and LCMs”: He points to his own work for this claim. I point to the National Institute of Justice report, commissioned by Congress as part of the 1994 federal assault weapons ban:

A central argument for special regulation of assault weapons and large capacity magazines is that they facilitate the rapid firing of high numbers of shots, which allows offenders to inflict more wounds on more persons in a short period of time, thereby increasing the expected number of injuries and deaths per criminal use. The study examined trends in the following consequences of gun use: gun murders, victims per gun homicide incident, wounds per gunshot victim, and, to a lesser extent, gun murders of police.

There were several reasons to expect, at best, a modest ban effect on criminal gun injuries and deaths. First, studies before the ban generally found that between less than 1 and 8 percent of gun crimes involved assault weapons, depending on the specific definition and data source used. Although limited evidence suggests that semiautomatics equipped with large capacity magazines are used in 20 to 25 percent of these gun crimes, it is not clear how often large capacity magazines actually turn a gun attack into a gun murder. Second, offenders could replace the banned guns with legal substitutes or other unbanned semiautomatic weapons to commit their crimes. ...

However, other analyses using a variety of national and local data sources found no clear ban effects on certain types of murders that were thought to be more closely associated with the rapid-fire features of assault weapons and other semiautomatics equipped with large capacity magazines. The ban did not produce declines in the average number of victims per incident of gun murder or gun murder victims with multiple wounds.⁸⁴

A follow-up study near the end of the ban produced interesting results concerning LCMs:

⁸³ Randolph Roth, Supplemental Sur-Rebuttal Expert Report And Declaration Of Randolph Roth, *Rupp v. Bonta* (C.D.Cal. 2017).

⁸⁴ Jeffrey A. Roth and Christopher S. Koper, *Impacts of the 1994 Assault Weapons Ban: 1994-96*, NCJ 173405, (Washington: National Institute of Justice, 1999), 1, 7, 8.

Specific data on shots fired in gun attacks are quite fragmentary and often inferred indirectly, but they suggest that relatively few attacks involve more than 10 shots fired. Based on national data compiled by the FBI, for example, there were only about 19 gun murder incidents a year involving four or more victims from 1976 through 1995.... The few available studies on shots fired show that assailants fire less than four shots on average (see sources in Table 9-1 and Goehl, 1993), a number well within the 10-round magazine limit imposed by the AW-LCM ban, but these studies have not usually presented the full distribution of shots fired for all cases, so it is usually unclear how many cases, if any, involved more than 10 shots.⁸⁵

As to the data from one city in particular, Jersey City, the authors were careful to observe:

Caution is warranted in generalizing from these results because they are based on a very small number of incidents (6) from one sample in one city. Further, it is not known if the offenders in these cases had LCMs (gun model and magazine information was very limited); they may have emptied small magazines, reloaded, and continued firing. But subject to these caveats, the findings suggest that the ability to deliver more than 10 shots without reloading may be instrumental in a small but non-trivial percentage of gunshot victimizations. On the other hand, the Jersey City study also implies that eliminating AWs and LCMs might only reduce gunshot victimizations by up to 5%. And even this estimate is probably overly optimistic because the LCM ban cannot be expected to prevent all incidents with more than 10 shots. Consequently, any effects from the ban (should it be extended) are likely to be smaller and perhaps quite difficult to detect with standard statistical methods (see Koper and Roth, 2001a), especially in the near future, if recent patterns of LCM use continue.⁸⁶ [emphasis added]

Curiously, when attempting to evaluate effects of lethal and injurious gun violence, the authors pointed to the decline in murder rates during the ban period, but:

Attributing the decline in gun murders and shootings to the AW-LCM ban is problematic, however, considering that *crimes with LCMs appear to have been steady or rising since the ban*. For this reason, we do not undertake a rigorous investigation of the ban's effects on gun violence.... But a more casual assessment shows that *gun crimes since the ban have been no less likely to cause death or injury than those before the ban*, contrary to what we might expect if crimes with AWs and LCMs had both declined. For instance, the percentage of

Christopher S. Koper, *Updated Assessment of the Federal Assault Weapons Ban: Impacts on Gun Markets and Gun Violence, 1994-2003* 90 (Jul. 2004).

⁸⁶ *Id.* at 91.

violent gun crimes resulting in death has been very stable since 1990 according to national statistics on crimes reported to police.⁸⁷ [emphasis added]

If a nationwide ban on manufacture and sale of LCMs seems to have no noticeable effect, what would the actions of one state do?

2. Cherry-Picking Data

For several years, I have been gathering American mass murders from the 17th century forward. I am currently working my way through the 1960s; I have 792 mass murder incidents with 5,325 dead from all weapon types. I have a very incomplete collection past 1960, but complete enough to see that Klarevas cherry-picks his data.

Klarevas' Table 1 (page 6) lists "The Deadliest Acts of Intentional Criminal Violence in the U.S. since 9/11." This seems to be an arbitrarily picked date: it excludes the Happyland Social Club arson mass murder of 87 (1990); the Oklahoma City explosives mass murder of 168 (1995); the Dupont Plaza Hotel arson mass murder of 98 (1986); and the elephant in the room, the largest mass murder in U.S. history: on 9/11 (2001). All of these far exceed the fatality count of the most deadly event in his Table 1. His Exhibit C, "High-Fatality Mass Shootings in the United States, 1991-2022," by setting 1991 as his starting date again excludes several mass shootings that would otherwise make the list and would alter his Figure 2 (page 7), "Annual Trends in High-Fatality Mass Shooting Fatalities, 1991-2022." Firearm mass murders that he leaves out because they are before 1991 raise serious questions about his claim "the problem of high-fatality mass shooting violence is on the rise," is less persuasive, at least to anyone with a knowledge of America's long history of mass murder before 1991.

⁸⁷ *Id.* at 92.

The Texas Tower mass murder of 1966; 17 people died.⁸⁸ The murderer was a skilled marksman using a very traditional hunting rifle: a Remington 700. He also had two more rifles, a shotgun, and three pistols with him.⁸⁹

Jul. 18, 1990: A convicted felon who was perhaps upset about repossession of his car six months earlier, went into a General Motors Acceptance Corp. offices and murdered nine.⁹⁰

Sep. 15, 1989: An employee of Standard Gravure printing plant had a grudge against his employer, in his opinion, because of his mental illness. (He had voluntarily sought mental health treatment in the past.) He murdered seven people and wounded many others. He left in his home a copy of *Time* open to an article about the Stockton mass murderer.⁹¹

Feb. 16, 1988: A murderer upset that his stalking had been spurned shot his way into her place of employment, in Santa Clara, Cal. killing seven and wounding four with a shotgun.⁹²

Apr. 23, 1987: A retired librarian described by neighbors as having “a bad temper and a sick wife... and maybe a little crazy” murdered six and wounded 14. He used a shotgun, pistol, and rifle. He had a history of shooting at neighborhood kids who walked across his lawn.⁹³ A bystander distracted the murderer by returning fire, “which allowed people to escape” from a grocery store where the shooting was taking place.⁹⁴

⁸⁸ Gary M. Laverne, *University of Texas Tower Shooting (1966)*, Texas State Historical Association,

⁸⁹ Craig Hlavaty, *Rifle Reported To Be Used In Charles Whitman Killing Spree Up For Sale*, *Houston Chronicle*, Sep. 24, 2014, <https://www.chron.com/news/houston-texas/texas/article/Rifle-reported-to-be-used-in-Charles-Whitman-5777479.php>, last accessed February 6, 2023.

⁹⁰ Ronald Smothers, “Florida Gunman Kills 8 And Wounds 6 in Office,” *New York Times*, Jun. 19, 1990; “10th Death in Office Shooting,” *New York Times*, Jun. 28, 1990.

⁹¹ Ronald Smothers, “Disturbed Past of Killer of 7 is Unraveled,” *New York Times*, Sep. 16, 1989, <https://www.nytimes.com/1989/09/16/us/disturbed-past-of-killer-of-7-is-unraveled.html>, last accessed November 24, 2018.

⁹² Dan Morain and Mark A. Stein, “Unwanted Suitor’s Fixation on Woman Led to Carnage,” *Los Angeles Times*, Feb. 18, 1988.

⁹³ Barry Bearak, “6 Dead and 14 Hurt in Rampage: Florida Shooting Suspect ‘Meanest Man on Block’,” *LOS ANGELES TIMES*, Apr. 25, 1987, http://articles.latimes.com/1987-04-25/news/mn-990_1_palm-bay-police, last accessed November 24, 2018.,”

⁹⁴ John A. Torres, “Palm Bay Killer Far From Execution 20 Years Later.” [Lakeland, Fla.] *Ledger*, Apr. 30, 2007, <https://www.theledger.com/news/20070430/palm-bay-killer-far-from-execution-20-years-later>, last accessed November 24, 2018.

There a number of other high-fatality firearm mass murders before 1991: 14 murdered in a post office in 1986⁹⁵; 20 murdered in a McDonald's in 1984⁹⁶; nine murdered in Manley Hot Springs, Alaska in 1984⁹⁷; eight murdered in Miami in 1982⁹⁸; nine murdered in Midland Co., Mich. In 1982⁹⁹; seven murdered at Cal State University, Fullerton in 1976¹⁰⁰; 11 murdered in Hamilton, Ohio in 1975¹⁰¹.

The number of high-fatality firearm mass murders *before* 1991 make his rising linear trend-line in Figure 2 very likely to change. In addition, Klarevas' Figure 1 makes no allowance for U.S. population growth from 1991 to 2022. The 1991 population was 251,000,000;¹⁰² in 2022, it was 332,403,650.¹⁰³ The U.S. had 32% more people in 2022 than in 1991. You can expect the number of incidents and dead to rise in proportion to the population. This is why criminologists express crime rates per 100,000 population. Failure to account for population growth and his misleading choice of start date utterly discredits Klarevas' Figures 1 and 2.

Klarevas' focus on mass *shootings* ignores the largest mass murders in American history, which did not use guns. The previously mentioned arson and explosives mass murders are in that category. Ignoring these alternative methods of "intentional criminal violence" in is just dishonest if you are concerned about reducing mass murder.

⁹⁵ "Massacre at a Post Office," *New York Times*, Aug. 24, 1986.,"

⁹⁶ "Coast Man Kills 20 in Rampage at a Restaurant." *New York Times*, Jul. 19, 1984; "Police Defended in Macdonald's Case," *New York Times*, Aug. 3, 1984.,"

⁹⁷ "Memories of Springtime Murders Chill Small Alaskan Town," *New York Times*, Nov. 11, 1984.

⁹⁸ George Volsky, "Gunman in Miami Kills 8 in Rampage," *New York Times*, Aug. 21, 1982.

⁹⁹ "Michigan Man is Guilty of Killing 7 in Family," *New York Times*, Oct. 9, 1982; Gus Burns, "Police say infamous Farwell killer, Robert Lee Haggart, strangled and raped Midland woman in 1977," *Saginaw News*, Jul. 24, 2009.

¹⁰⁰ Maria Bovsun, "Mass Murderer Who Killed 7 At Cal State Fullerton Begs to be Freed From Psychiatric Hospital," *New York Daily News*, Jun. 11, 2016.

¹⁰¹ Flowers and Flowers, *Murders in the United States*, 76.

¹⁰² U.S. Census, *National Intercensal Tables: 1990-2000*, 1991.

¹⁰³ U.S. Census, *U.S. Population Estimated at 332,403,650 on Jan. 1, 2022*.

At ¶13: “In addition to showing that the frequency and lethality of high-fatality mass shootings are on the rise nationally, the data point to another striking pattern: both assault weapons and LCMs are being used with increased frequency to perpetrate gun massacres.” He further claims in Figure 4 (page 9) that 85% of high-fatality mass shooting events in the last 16 years involved LCMs. And in Figure 5 (page 10) that 53% of high-fatality mass shooting deaths in the last 16 years involved assault weapons. These are pretty amazing (and wrong) claims.

The USA Today database published in 2018 found that only $\frac{3}{4}$ of mass murders used guns.¹⁰⁴ Of that $\frac{3}{4}$, some murders were a combination of weapons: shooting, stabbing, blunt force.¹⁰⁵

- 49.6% were semiautomatic handguns (some of which *could* have used LCMs);
- 22.4% were revolvers, so no LCMs possible, and not “assault weapons”;
- 0.9% were described as “automatic (assault) pistols” (automatic weapons are not subject to the New Jersey law);
- 8.6% were semiautomatic rifles (only some of which qualify as “assault weapons”; there are a lot of inexpensive .22 rimfire semiautomatic rifles in America);
- 9.5% were single-shot rifles (so no LCMs and not “assault weapons”);
- 0.4% were “automatic rifle” (not subject to the New Jersey law).
- 8.6% were shotguns. While there *are* magazine-fed shotguns that could be fitted with LCMs, the only shotguns identified by type that I have ever seen in news

Behind the Bloodshed: The Untold Story of America’s Mass Killings, USA Today, Apr. 16, 2015, <https://www.gannett-cdn.com/GDContent/mass-killings/index.html#title>, last accessed April 2, 2023.
Id., <https://www.gannett-cdn.com/GDContent/mass-killings/index.html#explore>, see Dec. 15. 2014 Souderton, Pa.

reports of mass murders are a pump-action Remington 870 shotgun to murder 12 at the Navy Yard in 2013.¹⁰⁶

Even ignoring the non-firearms mass murders, the firearms used 2006-2015 that could not have been “assault weapons” include the 22.4% of revolvers, 9.5% of single-shot rifles, and 8.6% of shotguns. At least 40.5% of 2006-2018 firearms mass murders could *not* have used an LCM.

The last 16 years before 2022 is the period 2006-2022. Even including use of LCMs in automatic weapons would require that to get to Klarevas’ 85% of high-fatality mass shooting events using LCMs would require that in the period 2017-2022 the previous 40.5% of non-LCM mass shooting victims fell to 15% of the total.

Klarevas’ Exhibit C lists the 2018 Parkland shooting as using an LCM. There seems to be some question about that:

Several state legislators who visited the school with crime-scene investigators said they learned from police that Cruz’s rifle was not top-of-the-line, perhaps explaining the malfunction.

The “weapon and bullets were not high quality and were breaking apart,” one of the legislators, state Sen. Lauren Book, D-Plantation, told the Herald.

Cruz went in with only 10-round magazines because larger clips would not fit in his duffel bag, Book said.¹⁰⁷

I confess that I was not even aware that there were 10-round AR-15 magazines available, until this question was first raised.

Greg Botelho and Joe Sterling, FBI: Navy Yard shooter ‘delusional,’ said ‘low frequency attacks’ drove him to kill, CNN, Sep. 26, 2013 <https://www.cnn.com/2013/09/25/us/washington-navy-yard-investigation/index.html>, last accessed February 3, 2023.

¹⁰⁷ Nicholas Nehamas and David Smiley, *Florida School Shooter’s AR-15 May Have Jammed, Saving Lives, Report Says*, MIAMI HERALD, Feb. 27, 2018.

D. Summary

The current effort to restrict semiautomatic rifles of an often military appearance and what prohibitionists call Large Capacity Magazines (LCMs) started in 1989 after a mentally ill drifter with a history of involuntary commitment and a spotty record of outpatient treatment, ended his suffering by committing mass murder and with an AK-47 pattern rifle. He received a Social Security disability check which enabled him to buy guns and ammunition while remaining homeless. As the California Dept. of Justice's official report observed:

In an ideal world, ample resources would have been available to detect his problems, identify them as potentially dangerous and likely to result in his life being uselessly wasted, and to provide for a type of intervention with a reasonable prospect of making a difference. However, in a world in which government spending has to recognize realistic limits set by the public, such resources will never be plentifully available.¹⁰⁸

Drawing chalk marks around bodies, postmortems and providing counselling for the survivors is cheaper? It was still many lives wasted by California's confused and irrational mental health policy that subsequently spread across the country in the 1970s.

A contributing factor to mass murders is media coverage:

Three shootings with multiple victims shook California over the last few days. The shootings Monday at two farms in Half Moon Bay, Calif., closely followed over the weekend at a dance hall in Monterey Park, Calif.

That's no surprise, say scientists who study mass shootings. Research shows that these incidents usually occur in clusters and tend to be contagious. Intensive media coverage seems to drive the contagion, the researchers say.

Back in 2014 and 2015, researchers at Arizona State University analyzed data on cases of mass violence. They included *USA Today's* data on mass killings (defined as four or more people killed using any means, including guns) from 2006 to 2013, data on school shootings between 1998 and 2013, and mass shootings (defined as incidents in which three people were shot, not necessarily

¹⁰⁸ Nelson Kempsey, *A Report to Attorney-General John K. Van de Kamp on Patrick Edward Purdy and the Cleveland School Killings*, October, 1989, 19, <https://schoolshooters.info/sites/default/files/Purdy%20-%20official%20report.pdf>, last accessed November 26, 2022.

killed) between 2005 and 2013 collected by the Brady Campaign to Prevent Gun Violence.

The lead researcher, Sherry Towers, a faculty research associate at Arizona State University, had spent most of her career modeling the spread of infectious diseases — like Ebola, influenza and sexually transmitted diseases. She wanted to know whether cases of mass violence spread contagiously, like in a disease outbreak.

So, she plugged each data set into a mathematical model.

"What we found was that for the mass killings — so these are high-profile mass killings where there's at least four people killed — there was significant evidence of contagion," says Towers. "We also found significant evidence of contagion in the school shootings."

In other words, school shootings and other shootings with four or more deaths spread like a contagion — each shooting tends to spark more shootings....

Towers and her colleagues also found that what set apart shootings that were contagious was the amount of media coverage they received. "In the incidences where there were four or more people killed, and even school shootings, those tended to get national and even international media attention," says Towers.¹⁰⁹

Nonetheless, no one would seriously suggest controls on “assault media” because they can provoke copycat mass murders.

Untreated mental illness started this current campaign and many of the subsequent mass murders have had at their root mental illness which was unseen, ignored, or where the laws or policies made involuntary commitment impossible.¹¹⁰

The Secret Service published a report in 2018 analyzing mass murders with three or more dead and concluded.

Nearly two-thirds of the attackers (n = 18, 64%) experienced mental health symptoms prior to their attacks. The most common symptoms observed were related to psychosis (e.g., paranoia, hallucinations, or delusions) and suicidal thoughts.... Further, some

¹⁰⁹ Rhitu Chatterjee, *Mass Shootings Can Be Contagious, Research Shows*, NPR, Jan. 24, 2023.

¹¹⁰ See Clayton E. Cramer, *Mental Illness and the Second Amendment*, 46 CONN. L.R. 4:1301 (2014) for an examination of this problem and Clayton E. Cramer, *MY BROTHER RON: A PERSONAL AND SOCIAL HISTORY OF THE DEINSTITUTIONALIZATION OF THE MENTALLY ILL* (2012) for how we got here.

attackers (n = 7, 25%) had been hospitalized for treatment or prescribed psychiatric medications prior to their attacks.¹¹¹

This should be no surprise: if you are hallucinating that you are surrounded by flesh-eating zombie Congressmen (as with the shooter at the U.S. Capitol in 1999¹¹²), then mass murder makes perfect sense; indeed failing to do so would be a sign of insanity.

A 2000 *New York Times* examination of mass murderers concluded:

The Times' study found that many of the rampage killers... suffered from severe psychosis, were known by people in their circles as being noticeably ill and needing help, and received insufficient or inconsistent treatment from a mental health system that seemed incapable of helping these especially intractable patients.

Only a small percentage of mentally ill people are violent, and many advocates bristle at any link between mental illness and violence out of concern that it will further stigmatize an already mistreated population.

However, the Times investigation of this particular style of violence -- public rampage killings -- turned up an extremely high association between violence and mental illness. Forty-seven of the killers had a history of mental health problems before they killed; 20 had been hospitalized for psychiatric problems; 42 had been seen by mental health professionals.¹¹³

In this respect, mentally ill mass murderers are not terribly different from their more mundane individual murder counterparts: the mentally ill are overrepresented among murderers. It should not be surprising that severe mental illness and murder is strongly correlated, as are severe mental illness and other violent crimes across multiple nations and multiple decades. The severely mentally ill commit about 10% of all violent felonies.¹¹⁴ A 1999 study of U.S. prisoners found

¹¹¹ United States Secret Service, Mass Attacks in Public Spaces – 2017, Mar. 2018, available at https://mentalillnesspolicy.org/wp-content/uploads/secret_service_64_attacks_MI.pdf.

¹¹² Bill Miller, *Capitol Shooter's Mind-Set Detailed*, Washington Post, Apr. 23, 1999, available at <https://www.washingtonpost.com/wp-srv/national/longterm/shooting/stories/weston042399.htm>

¹¹³ Laurie Goodstein and William Glaberson, "The Well-Marked Roads to Homicidal Rage," *New York Times*, April 10, 2000.

¹¹⁴ Arthur Zitrin, Anne S. Hardesty, Eugene I. Burdock & Ann K. Drossman, Crime and Violence Among Mental Patients, 133 *Am. J. Psychiatry* 142-9 (1976) (deinstitutionalized New York City mental patients had disproportionate arrest rates for rape, burglary, and aggravated assault); Larry Sosowsky, Crime and Violence Among Mental Patients Reconsidered in View of the New Legal Relationship Between the State and the Mentally Ill, 135 *Am. J. Psychiatry* 33-42 (1978) (San Mateo County, California, mental patients showed grossly disproportionate arrest rates for murder, rape, robbery, aggravated assault, and burglary; 55

that 16.2 percent of state prison inmates, 7.4 percent of federal prison inmates, and 16.3 percent of jail inmates, were mentally ill.¹¹⁵ A study of Indiana murder convicts found that 18 percent were severely mentally ill, suffering from “schizophrenia or other psychotic disorder, major depression, mania, or bipolar disorder.”¹¹⁶ The Indiana murder convicts diagnosed with schizophrenia were 3.7 percent of the murder convicts,¹¹⁷ compared to 1.1 percent of the U.S. adult population.¹¹⁸

Untreated mental illness started this current campaign and many of the subsequent mass murders have had at their root mental illness which was unseen, ignored, or where state laws or policies made involuntary commitment impossible.¹¹⁹

times more likely to be arrested for murder than the general population in 1973; 82.5 times more likely to be arrested to be arrested for murder in 1972; nine times more likely to be arrested for rape, robbery, aggravated assault, and burglary than the general population); Larry Sosowsky, Explaining the Increased Arrest Rate Among Mental Patients: A Cautionary Note, 137 *Am. J. Psychiatry* 1602-5 (1980) (even mental patients with no pre-hospitalization arrests were five times as likely to be arrested as the general population for violent crimes); H. Richard Lamb & Linda E. Weinberger, Persons with Severe Mental Illness in Jails and Prisons: A Review, 49 *Psychiatric Services* 483-92 (1998); Jeanne Y. Choe, Linda A. Teplin & Karen M. Abram, Perpetration of Violence, Violent Victimization, and Severe Mental Illness: Balancing Public Health Concerns, 59 *Psychiatric Services* 153-164 (Feb. 2008) (Studies in Denmark and Sweden found that psychotics are disproportionately violent offenders); Eric B. Elbogen & Sally C. Johnson, The Intricate Link Between Violence and Mental Disorder: Results From the National Epidemiologic Survey on Alcohol and Related Conditions, 66 *Archives of General Psychiatry* 152-161 (2009) (“violence and violent victimization are more common among persons with severe mental illness than in the general population.”)

¹¹⁵ Paula M. Ditton, Bureau of Justice Statistics, Mental Health and Treatment of Inmates and Probationers (Washington: U.S. Department of Justice, 1999), NCJ 174463, available at <https://bjs.ojp.gov/library/publications/mental-health-and-treatment-inmates-and-probationers>

¹¹⁶ Jason C. Matejkowski, Sara W. Cullen & Phyllis L. Solomon, Characteristics of Persons with Severe Mental Illness Who Have Been Incarcerated for Murder, 36 *J. Am. Acad. Psychiatry & Law* 74, 76 (2008).

¹¹⁷ *Id.* at 80.

¹¹⁸ National Institute of Mental Health, *Schizophrenia* (August 21, 2013), <http://www.nimh.nih.gov/statistics/1schiz.shtml>.

¹¹⁹ See Clayton E. Cramer, *Mental Illness and the Second Amendment*, 46 *Conn. L.R.* 4:1301 (2014) for an examination of this problem and Clayton E. Cramer, *My Brother Ron: A Personal and Social History of the Deinstitutionalization of the Mentally Ill* (2012) for how we got here.

Fix the root problem or mass murderers will use the weapons they have historically used in the United States: arson,¹²⁰ vehicles,¹²¹ explosives,¹²² hammers,¹²³ axes,¹²⁴ poison,¹²⁵ aircraft,¹²⁶ and train derailments.¹²⁷ Or they might use the weapons mass murderers use in other nations: arson;¹²⁸ vehicles;¹²⁹ explosives,¹³⁰ sharp objects,¹³¹ hammers,¹³² poison gas,¹³³ and of course, in spite of much stricter firearms laws, guns.¹³⁴

¹²⁰ 3 Teamsters Charged in San Juan Hotel Fire,” *Chicago Tribune*, Feb. 4, 1988, <https://www.chicagotribune.com/news/ct-xpm-1988-02-04-8803270617-story.html>, last accessed November 24, 2018 (97 dead); Ralph Blumenthal, *Fire in the Bronx; 87 Die in Blaze at Illegal Club; Police Arrest Ejected Patron; Worst New York Fire Since 1911*, *NEW YORK TIMES*, Mar. 26, 1990 (87 dead); Phil Luciano, *9-year-old arraigned on murder charges in deadly Goodfield arson fire*, *PEORIA JOURNAL STAR*, Oct. 21, 2019 (5 dead).

¹²¹ Lauren del Valle, Ray Sanchez and Eric Levenson, *Terror suspect accused of killing 8 people on NYC bike path still believes in ISIS*, *defense attorney says*, *CNN*, January 9, 2023.

¹²² FBI, *Oklahoma City Bombing*, <https://www.fbi.gov/history/famous-cases/oklahoma-city-bombing>, last accessed January 31, 2023 (168 dead); *Fate Saves Scores in Blast When Maniac’s Plot Kills 43*, [Washington, D.C.] *EVENING STAR*, May 19, 1927, 1; *Los Angeles, on Election Eve, in Ferment Over Confession of the McNamaras*, [Chicago, Ill.] *THE DAY BOOK*, Dec. 2, 1911, 1 (21 dead); *Seven Detectives and Three Miners Dead*, *SEATTLE STAR*, Jul. 26, 1912, 1 (10 dead).

¹²³ *A Family Slain*, *KANSAS CITY JOURNAL*, Mar. 4, 1899, 1 (5 dead).

¹²⁴ *Five Battered With An Axe*, [Keokuk, Ia.] *DAILY GATE CITY*, Oct. 17, 1911, 1 (5 dead); *Mystery of 30 Axe-Murders is Believed Near Its Solution*, *ALBUQUERQUE MORNING JOURNAL*, Mar. 22, 1915, 1 (police believed one man murdered 29 people in five families over three years).

¹²⁵ *A Modern Borgia*, *NASHVILLE UNION AND AMERICAN*, Oct. 27, 1868, 1 (the maid murdered a family of seven).

¹²⁶ FBI, *CRIME IN THE UNITED STATES: 2001*, Section 5, <https://ucr.fbi.gov/crime-in-the-u.s/2001/01sec5.pdf> (3047 dead); *Id.*, (184 dead); *Id.*, (40 dead); Judith Cummings, *Kin of Suspect Defiant and Contrite*, *New York Times*, Dec. 11, 1987 (44 dead).

¹²⁷ *Crack Flyer Jumps Track*, [De Kalb, Illinois] *DAILY CHRONICLE*, Mar. 17, 1941, 1 (5 dead).

¹²⁸ *A Decade On, Childers Remembers Hostel Fire Tragedy*, *BRISBANE [Australia] TIMES*, Jun. 23, 2010 (15 dead); Candace Sutton, *Man Who Murdered 11 People in Nursing Home Fire 'Frothed At The Mouth' From Drugs And 'Put Nails In Tyres And Poured Paint' Over Boss's Car, Inquest Hears*, [U.K.] *DAILY MAIL*, Sep. 8, 2014, (11 dead); Makiko Inoue, Motoko Rich and Hikari Hida, *24 Dead in Suspected Arson at Office Building in Japan*, *N.Y. TIMES*, Dec. 16, 2021.

¹²⁹ *Toronto is the most recent of many deliberate attacks involving vehicles*, *USA TODAY*, Apr. 23, 2018 (10 dead in Toronto attack, 14 dead in Barcelona, Spain, 8 on London Bridge, 12 in Berlin, Germany); *Nice attack: Trial for Bastille Day massacre which killed 86 begins*, *BBC*, Sep. 5, 2022 (86 dead); *Australian who rammed and killed six pedestrians jailed for life*, *REUTERS*, Feb. 21, 2019 (6 dead); Alex Johnson, *A Short History of Vehicles Being Used as Deadly Weapons*, *NBC News*, Jul. 15, 2016 (8 dead).

¹³⁰ Andrew Higgins and Kimiko De Freytas-Tamura, *In Brussels Bombing Plot, a Trail of Dots Not Connected*, *NEW YORK TIMES*, March 26, 2016 (33 dead); Sylvia Hui, *Bomber’s brother gets 55 years for Manchester concert attack*, *Associated Press*, Aug. 20, 2020 (22 dead).

¹³¹ Jason Van Rassel, *Police officer’s son charged in city’s worst mass murder*, *CALGARY [Alberta] HERALD*, Apr. 17, 2014 (5 dead); Jonathan Pearlman, *Eight Children Murdered In Mass Stabbing In Australia*, [U.K.] *TELEGRAPH*, Dec. 19, 2014 (8 dead); Robert Foyle Hunwick, *Why Does China Have So Many School Stabbings?*, *New Republic*, Nov. 2, 2018 (summarizing 14 knife mass murders in two incidents); David Mercer, *Canada mass stabbing: Trudeau urges public to ‘be careful’ over two men suspected of killing 10 people*, *SKY NEWS*, Sep. 5, 2022 (10 dead).

¹³² Jamelle Wells, *Robert Xie Trial: Lin Family ‘Murdered With Hammer Bought From \$2 Shop*, *ABC [Australia]*, May 12, 2014 (5 dead).

¹³³ *Japan marks 25 years since deadly Aum sarin attack on Tokyo subway*, *Japan Times*, Mar. 20, 2020 (14 dead).

¹³⁴ *Gunman’s Rampage in France Leaves 14 Dead*, *Los Angeles Times*, Jul. 13, 1989; *Teen-Age Gunman Kills Himself and 12 Others in France*, *New York Times*, Sep. 25, 1995; Nick Caistor, *Profile of a Teenage Killer*, *BBC News*, Apr. 28, 2002; *18 Dead in German School Shooting*, *BBC News*, Apr. 26, 2002; *Brazil School Shooting: Twelfth Child Dies*, *SkyNews*, Apr. 8, 2011; James Graff, *Politics Under the Gun*, *Time*, Mar. 31, 2002 (8 dead; 18 wounded in France); *Safety Council To Investigate Gun Laws*, *DutchNews.nl*, Apr. 12, 2011, http://www.dutchnews.nl/news/archives/2011/04/safety_council_to_investigate.php, last accessed May 21, 2011; *Schutter was al eerder suïcidaal*, *NOS Nieuws*, Apr. 10, 2011, <http://nos.nl/artikel/232127-schutter-was-al-eerder-suïcidaal.html>, last accessed May 21, 2011.

IV. Randolph Roth

This section analyzes Prof. Roth's Expert Report concerning the "history of homicides and mass murders in the United States. I take particular exception to his interpretation of the influence of firearms technology on murder and mass murder in particular.

A. Homicide and Firearms in the Colonial Era (1688-1763)

1. Regional and Cultural Variation

Starting at ¶20 Roth provides a plausible set of explanations for changing murder rates by region and over time. He misses several explanations that might significantly contribute to murder rates, single or mass murder and regardless of weapon type: imported cultural traditions; religious beliefs, and population density.

The early British settlements in America established patterns of family life and acceptable individual behavior, and these cultural patterns persisted into the nineteenth century, often influencing regional levels of violence. As David Hackett Fischer has exhaustively documented, four distinctive British folkways dominated eighteenth- and early nineteenth-century American society, and still influence it today: Puritan New England; Cavalier Virginia; Quaker Pennsylvania; and back country Scots-Irish. Nor is this a recent discovery: the British novelist Frederick Maryatt visiting America in 1837, identified this country as still constituting distinct cultures: "[T]he puritan of the east, the Dutch descent of the middle states, the cavalier of the south . . . nearly as marked and distinct now, as at the first occupation of the country; softened down indeed, but still distinct. Not only are the populations of the various states distinct, but even those of the cities. . . ." ¹³⁵

¹³⁵. Frederick Marryat, *Diary in America*, ed. Jules Zanger 36 (1839)

Puritan New England was disproportionately settled by entire families, many of them representatives of “the sturdy middle class of England.”¹³⁶ With its emphasis on family life, self-discipline, and the consequences of sin, Puritan New England set a pattern that replicated itself as Yankees migrated west across the continent.¹³⁷ This cultural pattern of self-discipline and social order appears to have played a part in keeping serious violent crimes rare in Boston and New York City until the 1830s, when large numbers of Irish immigrants arrived, ending the cultural homogeneity of these cities.¹³⁸

The Quakers, while attaching less importance to marriage than the Puritans,¹³⁹ shared the Puritan desire for social order and peace. Frances Wright, describing 1820 Philadelphia, observed the Quaker influence in “the orderly behaviour of the citizens. You not only see no riots in the streets, but no brawls. . . .”¹⁴⁰ While the Quaker ideal of social order was different from that of the Puritans, the Quaker system of punishments was even more severe (except for capital punishment, which the Quakers opposed).¹⁴¹ Even after the Quakers had ceased to control the Delaware Valley, their culture persisted. Not surprisingly, migrants heading west from the Delaware Valley carried these values about peace and social order with them.¹⁴²

Cavalier Virginia, because of the commercial motivations that underlaid the colony and because of high female death rates (caused by an unhealthy combination of temperature,

¹³⁶ David Hackett Fischer, *ALBION’S SEED: FOUR BRITISH FOLKWAYS IN AMERICA* 26-31 (1989); Virginia Dejohn Anderson, *Migrants and Motives: Religion and the Settlement of New England, 1630-1640*, 58 *NEW ENGLAND QUARTERLY* 339-383 (1985), in Stanley N. Katz, John M. Murrin, and Douglas Greenberg, eds., *COLONIAL AMERICA: ESSAYS IN POLITICS AND SOCIAL DEVELOPMENT* 102-106 (4th ed. 1993).

¹³⁷ David T. Courtwright, *Violent Land: Single Men and Social Disorder from the Frontier to the Inner City* 48-49 (1996).

¹³⁸ James F. Richardson, *Urban Police in the United States* 19 (1974); Roger Lane, *Policing the City: Boston 1822-1885* 26-38 (1967); Frances Wright, *Views of Society and Manners in America*, ed. Paul R. Baker 16-18 (1963).

¹³⁹ Fischer, *ALBION’S SEED*, 487-488.

¹⁴⁰ Frances Wright, *VIEWS OF SOCIETY*, 236.

¹⁴¹ Fischer, *ALBION’S SEED*, 494-499, 584-589.

¹⁴² Fischer, *Albion’s Seed* 594-595.

mosquitoes, and swamps), was dominated by single young men. The culture that developed there was disordered and violent in a way that the Puritan and Quaker cultures were not. A consequence of this single male culture was the South's emphasis on honor—and the use of violence to avenge insults to honor.¹⁴³

Nor is this a later interpolation. As early as the 1830s, at least one traveler through the Old Southwest observed that the surplus of single young men caused an increase in violence and dueling.¹⁴⁴ While of a somewhat later era (1850s Nevada and postbellum California), Roger McGrath statistically demonstrated that violent crime rates in the wildest frontier mining camps of the Sierra Nevada were low in every category except for murder, where single males fought to the death because of “honor, pride, and courage.” In many respects, McGrath's description of this culture sounds very southern—or perhaps the problems of single young men transcend culture.¹⁴⁵

Perhaps the most important of these cultural factors arrived between 1717 and 1775, when a vast swarm of British immigrants arrived for whom violence was not a consequence of too many

¹⁴³. Courtwright, *Violent Land*, 27-30; Edward L. Ayers, *Vengeance and Justice: Crime and Punishment in the 19th-Century American South* 20-21 (1984). Bertram Wyatt-Brown, *SOUTHERN HONOR: ETHICS AND BEHAVIOR IN THE OLD SOUTH* 166-174 (1982), provides examples of how southern culture glorified fighting and dueling, even at the expense of young men's lives.

Wyatt-Brown, *SOUTHERN HONOR* 20, argues that dueling had been common in the North before the Revolution but declined in response to Beecher's attacks on dueling. But a minority viewpoint, articulated in Bruce Baird, “The Social Origins of Dueling in Virginia,” in Michael Bellesiles, ed., *LETHAL IMAGINATION: VIOLENCE AND BRUTALITY IN AMERICAN HISTORY* (1999), 87-112, argues that colonial Virginia was not a particularly violent culture until shortly before the Revolution, when back country Scots-Irishmen become an increasingly important influence on the tidewater Cavaliers.

¹⁴⁴. Joseph Holt Ingraham, 2 *The South-West: By a Yankee* 45-9 (1835).

¹⁴⁵. Roger D. McGrath, *Gunfighters, Highwaymen, and Vigilantes: Violence on the Frontier* 247-255 (1984).

single young men but was a fundamental part of their way of life. Often called Scots-Irish,¹⁴⁶ these settlers came from the English and Scottish border counties, sometimes after a stay in Ulster.¹⁴⁷

Like the Puritans, these immigrants were likely to arrive as family units. Sometimes, entire communities emigrated together.¹⁴⁸ Unlike Virginia cavalier culture, gender ratio should not have made these immigrants peculiarly violent. Instead, they brought a culture of violence with them. Two differing theories have been offered to explain this level of violence: In some ways, they are complementary not competing theories.

One theory holds that the absence of effective government created a culture in which private violence, both defensive and offensive, was the only practical way to survive. From the eleventh century to the close of the eighteenth century, the borderlands between Scotland and England were the scene for continual warfare and private criminal behavior. Ambrose Bierce's cynical definition of a pacifist as a "dead Quaker" suggests at least one reason why defensive and offensive violence became a part of the culture: In an area where rape, torture, and murder were common and no effective legal system existed, those reluctant to use deadly force would be at a serious disadvantage. The inhabitants developed a callous disregard for law and the lives of others; survivors pass on their culture much more effectively than the dead. These values became a part of the Scots-Irish culture.¹⁴⁹

¹⁴⁶. Fischer, *Albion's Seed*, 618-621, does an effective job of demonstrating the misleading nature of the term "Scots-Irish." Alas, the term is so thoroughly ingrained in the American lexicon that it seems beyond hope to call them "borderlanders."

¹⁴⁷. James G. Leyburn, *The Scotch-Irish: A Social History* 157 (1962), says that 250,000 immigrated just from Ulster during this period.

¹⁴⁸. Fischer, *Albion's Seed*, 608-610. One example of this Scots-Irish family group migration is the 1730 arrival of the McConnell, Young, and Setlington families from northern Ireland. Ethel McConnell Bartindale, *History of the McConnell Family* 6-7 (1923). The McConnells were my *very* peaceful and civilized ancestors.

¹⁴⁹. Fischer, *Albion's Seed*, 621-632; Ayers, *Vengeance and Justice*, 21-23. Leyburn, *The Scotch-Irish*, 3-13, describes the causes for this culture of violence in greater detail than Fischer, though arguing that the level of violence significantly decreased by 1610, even though the cultural values associated with it persisted.

Another theory argues that the Scots-Irish culture of violence was a product of an economy based on herding on marginal agricultural lands. Where poor soils or a lack of rain make lands marginal for farming, herding takes its place, as it did in both Scotland and many of the mountainous and arid parts of the American South. Herding and its cause, poor agricultural lands, carry with it three closely related problems that lead to a culture of honor and violence: portability of goods, poverty caused by poor soils, and an absence of effective government because of a limited tax base.

Because a herder's livelihood is dependent on a readily transportable form of property, he is much more likely to suffer theft than a farmer. Crops cannot be cajoled into walking away, unlike sheep or cattle. Crops are often less valuable per weight, and therefore the incentive to steal crops is less. Consider how widespread the problem of cattle rustling was in the American West, while there is no equivalent specialized term for the theft of wheat "on the hoof." A herder must then be able and willing to defend his livestock from theft—and in remote settings where he may have little or no assistance from government.

Rustlers will attack whom they perceive as the weakest herdsman to steal his livestock. Members of a herding culture must therefore be sensitive to insult, "to preserve the individual's reputation for being willing and able to carry out violence if needed."¹⁵⁰ Hence, the culture of honor exists—one in which how others perceive your willingness to defend what is yours matters very much. This would suggest that in exchange for reduced property crimes, such a society experiences increased crimes of violence as herdsmen demonstrate this willingness to fight. Not surprisingly, with such a tradeoff, property crimes appear to have been rare in the South relative

¹⁵⁰. Richard E. Nisbett and Dov Cohen, *Culture of Honor: The Psychology of Violence in the South* 89 (1996).

to crimes of violence.¹⁵¹ Perhaps the southerner's willingness to use force to protect property explains why property crimes were rare and crimes of violence were common.

At the same time, the poverty of a region dependent on herding makes it more likely that thieves will risk injury or death to steal livestock because the alternative may be hunger or even starvation. Agricultural societies usually have sufficient surpluses (assuming equivalent distribution of wealth) that stealing is not necessary to avoid hunger. Not only must the herder have the ability to defend his herd from theft, but his need to protect his livestock is likely higher as well because of the poverty of a herding society.

Finally, herding societies, because of their limited tax base, often have limited criminal justice systems. The herder must therefore deal with problems of theft himself if he wishes to protect his livelihood.¹⁵² Whether the herding economic base caused the culture of honor in Scotland or not, herding dominated the economy in the antebellum southern uplands, with farming a sideline—as had been the case for centuries in the borderlands whence came the Scots-Irish.¹⁵³

2. Homicide in Colonial America

Prof. Roth in ¶17 argues that “Violence among colonists was not a pressing problem on the eve of the Revolution.” I would completely agree that this was true, but I disagree strongly with his reasons for why.

First, homicide rates were low among colonists from the Glorious Revolution of 1688-1689 through the French and Indian War of 1754-1763, thanks to political stability, a surge in patriotic fellow feeling within the British empire, and greater trust in government.

¹⁵¹ Grady McWhiney, *Cracker Culture: Celtic Ways in the Old South* 166-7 (1988).

¹⁵² Nisbett and Cohen, *Culture of Honor*, 5-11, 88-90.

¹⁵³ McWhiney, *CRACKER CULTURE*, 51-56, 64-78. Malcolm J. Rohrbough, *THE TRANS-APPALACHIAN FRONTIER: PEOPLE, SOCIETIES, AND INSTITUTIONS 1775-1850* 288 (1978), also notes the emphasis on herding, not farming, in the Old Southwest.

Roth's source is Roth's book *American Homicide* 63. This is not evidence; it is "trust me, I know what I am doing." Review of that chapter in Roth's book has a lot of very plausible arm-waving but not evidence that would persuade someone who did not already share Roth's assumptions or trust in...Randolph Roth. Roth provides no evidence to show that political stability increased, that patriotism increased or trust in government increased.

We need to examine Roth's definitions. These homicide rates are not *murder* rates, which makes comparison to current murder rates invalid. First of all, Roth repeatedly indicates that he is looking at homicides by "unrelated adults."¹⁵⁴ About 6% of murder victims in 2019 were under 18.¹⁵⁵ It seems likely that murder of minors (which at that time would have included all under 21 years) would have been similarly common. "A survey of murder cases disposed in 1988 in the courts of large urban counties indicated that 16% of murder victims were members of the defendant's family."¹⁵⁶

Damaging comparability the other direction, Roth tells us that his homicide numbers include "assaults that were legally justified or not meant to cause death."¹⁵⁷ About 6% of recent civilian homicides are either initially or subsequently (as the case moves from arrest through indictment and trial) classified as justifiable or excusable. Justifiable homicides are killings of a person engaged in a felony; excusable homicide includes a variety of both unintentional killings ("committed by accident and misfortune, or in doing any other lawful act by lawful means, with usual and ordinary caution, and without any unlawful intent") and a surprisingly catch-all category of intentional killings: "When committed by accident and misfortune, in the heat of passion, upon

¹⁵⁴ Roth, *AMERICAN HOMICIDE* 61, Figure 2.3 at p. 95 (2009).

¹⁵⁵ FBI, *CRIME IN THE UNITED STATES 2019*, Expanded Homicide Data Table 2 (2019).

¹⁵⁶ John M. Dawson and Patrick A. Langan, *Murder in Families*, BUREAU OF JUSTICE STATISTICS SPECIAL REPORT 1 (Jul. 1994).

¹⁵⁷ Randolph Roth, *AMERICAN HOMICIDE* xii (2009).

any sudden and sufficient provocation, or upon a sudden combat, when no undue advantage is taken, nor any dangerous weapon used, and when the killing is not done in a cruel or unusual manner.”)¹⁵⁸

Roth at ¶17: “By the late 1750s and early 1760s, the rates at which *adult* colonists were killed were roughly 5 per 100,000 adults per year in Tidewater Virginia, 3 per 100,000 in Pennsylvania, and 1 per 100,000 in New England.” These are rates not terribly different from current U.S. murder rates. Roth’s numbers however understate murder rates. This gives a warmer and cozier picture of colonial America than it was.

New England especially was doing *something* right, but what? Roth at p. 10 has a second explanation, but one that explains too much:

Firearm use in homicides was generally rare because muzzle-loading firearms, such as muskets and fowling pieces, had significant limitations as murder weapons in the colonial era. They were lethal and accurate enough at short range, but they were liable to misfire, given the limits of flintlock technology; and with the exception of a few double-barreled pistols, they could not fire multiple shots without reloading. They could be used effectively to threaten and intimidate, but once they were fired (or misfired), they lost their advantage: they could only be used as clubs in hand-to-hand combat. They had to be reloaded manually to enable the firing of another shot, which was a time-consuming process that required skill and experience.

One blackpowder muzzle loading firearm of the time could fire large numbers of bullets without reloading: the blunderbuss. Often portrayed in cartoon representations of Pilgrim hunting:

¹⁵⁸ Clayton E. Cramer, *Why the FBI’s Justifiable Homicide Statistics Are a Misleading Measure of Defensive Gun Use*, 27 U. FLA. J.L. & PUB. POL’Y 505 (2016).



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The blunderbuss was a shotgun with a belled muzzle intended to distribute shot at close range where it would be devastating. Soldiers often used them to repel boarders at sea or while boarding ships at sea. They were also “the preferred weapon of coach guards... and defense of close spaces such as buildings and in dealing with unruly crowds.”¹⁶⁰ They were loaded with up to 20 pellets of buckshot. #0 buckshot is .33 caliber.¹⁶¹ At close range, they would be firing 20 lead balls the diameter of a modern 9mm bullet. While likely less lethal beyond 20 yards (hunting distance for fowl), the state of medical knowledge would likely have made them as fatal as being attacked with a modern pistol.

Were blunderbusses commonly owned? They appear for sale in ads,¹⁶² in murder cases,¹⁶³ and inventories of confiscated weapons. When General Gage ordered the citizens of Boston turn

¹⁵⁹ *Blunderbuss, the “Thunder Box” of the Battlefield*, American Revolution Institute of the Society of the Cincinnati, <https://www.americanrevolutioninstitute.org/recent-acquisitions/english-blunderbuss/>, last accessed February 5, 2023.

¹⁶⁰ Spencer C. Tucker, *INSTRUMENTS OF WAR: WEAPONS OF TECHNOLOGY THAT HAVE CHANGED HISTORY* 72-73 (2015).

¹⁶¹ Chris Baker, *Buckshot*, <https://www.luckygunner.com/lounge/stuff-you-should-know-about-buckshot-part-1/>, last accessed February 5, 2023.

¹⁶² *Boston Gazette*, May 30, 1720.

¹⁶³ In 1630, ten years after his arrival at Plymouth, John Billington, who had been in continual trouble at Plymouth, was convicted of murdering John Newcomen with a blunderbuss, after some quarrel now lost to history. George F. Willison, *SAINTS AND STRANGERS* 308 (1981)/

in their firearms after the unpleasantness at Lexington, the more gullible citizens turned in thousands of weapons including 38 blunderbusses.¹⁶⁴

The single shot nature of a muzzle loader certainly would have deterred their use for mass murder. There are many other plausible explanations for the rarity of homicides in that time. There were no cities. Even today, population density in America is strongly correlated with murder: Metropolitan Statistical Areas have 5.1/100,000 murders, compared to 4.5 for cities outside metropolitan areas and 3.9 for Nonmetropolitan counties.¹⁶⁵ And few nonmetropolitan counties in America today could even begin to compare to any New England county for population. Murder rates in New England today remain among the lowest in the nation (Maine: 1.5/100,000; New Hampshire: 2.2; Vermont: 1.8; compared to the U.S.: 5.0),¹⁶⁶ even with until recently some of the most relaxed gun laws in America (Giffords Law Center to Prevent Gun Violence Annual Gun Law Scorecard: Maine: F; New Hampshire F; Vermont C-).¹⁶⁷ Many other states are awash in modern guns, relaxed gun laws, and murder rates that are only slightly worse than colonial New England. My home state, Idaho, which does not even require a license to carry, and has no machine gun regulation, is 2.0/100,000; South Dakota (1.9); Wyoming (2.2).¹⁶⁸ All three states get an F from Giffords.¹⁶⁹ Considering that Roth's homicide rates undercount murders by excluding children and murders by relatives, none of these states with *very* relaxed gun laws and widespread availability of modern firearms seem to be doing much worse today than colonial New England. Perhaps Roth needs to consider other explanations?

¹⁶⁴ Richard Frothingham, HISTORY OF THE SIEGE OF BOSTON, AND OF THE BATTLES OF LEXINGTON, CONCORD, AND BUNKER HILL 94-95 (6th ed., 1903).

¹⁶⁵ FBI, CRIME IN THE UNITED STATES 2019 Table 2.

¹⁶⁶ FBI, CRIME IN THE UNITED STATES 2019 Table 4.

¹⁶⁷ Giffords Law Center to Prevent Gun Violence, *Annual Gun Law Scorecard*, <https://giffords.org/lawcenter/resources/scorecard/>, last accessed July 16, 2023.

¹⁶⁸ FBI, Crime in the United States: 2019, Table 4.

¹⁶⁹ Giffords Law Center to Prevent Gun Violence, *Annual Gun Law Scorecard*, <https://giffords.org/lawcenter/resources/scorecard/>, last accessed July 16, 2023.

3. Black Powder

At ¶19, Roth suggests an explanation for why a society where guns were widespread did not have a substantial gun murder problem:

And muzzle-loading guns were difficult to keep loaded for any length of time, because black powder absorbed moisture and could corrode the barrel or firing mechanism or make the charge liable to misfire. The life of a charge could be extended by storing a gun in a warm, dry place, typically over a fireplace, but even there, moisture from boiling pots, drying clothes, or humid weather could do damage. That is why most owners stored their guns empty, cleaned them regularly, and loaded them anew before every use.

This would be a persuasive and logical argument except for what the people who lived then tell us. Massachusetts Governor Winthrop's journal reports several accidental deaths or injuries caused by colonists failing to follow this very logical action:

And:

Three men coming in a shallop from Braintree, the wind taking them short at Castle Island, one of them stepping forward to hand the sail, caused a fowling piece with a French lock, which lay in the boat, to go off. The whole charge went through the thigh of one man within one inch of his belly, yet missed the bone, then the shot (being goose shot) scattered a little and struck the second man under his right side upon his breast, so as above 40 shot entered his body, many into the capacity of his breast.¹⁷⁰

Children were not safe from these rarely loaded firearms:

It is observable that this man had gathered some providences about such as were against them, as that Mr. Winslow's horse died, as he came riding to Boston; that *his brother's son (a child of eight years old) had killed his own sister (being ten years of age) with his father's piece*, etc., and his great trouble was, least this providence which now befell him, should be imputed to their cause.¹⁷¹ [emphasis added]

And:

One Richard Sylvester, having three small children, he and his wife going to the assembly, upon the Lord's day, left their children at home. The eldest was without

¹⁷⁰ Id. 2:55.

¹⁷¹ Id., 2:317.

doors looking to some cattle ; the middle-most, being a son about five years old, seeing his father's fowling piece, (being a very great one,) stand in the chimney, took it and laid it upon a stool, as he had seen his father do, and pulled up the cock, (the spring being weak,) and put down the hammer, then went to the other end and blowed in the mouth of the piece, as he had seen his father also do, and with that stirring the piece, being charged, it went off, and shot the child into the mouth and through his head.¹⁷²

These four incidents of firearms kept loaded when not in actual use resulting in serious misadventure are in *one* book. How many of these loaded firearms sat quietly in their place, never accidentally discharging? How many incidents are in books that I have not read?

Finally, there is one more piece of evidence that Americans had loaded firearms when not ready for use. In 1783, Massachusetts passed a statute that shows firearms were kept loaded regularly enough to justify a law regulating the practice.

The preamble “WHEREAS the depositing of loaded arms in the houses of the town of Boston, is dangerous to the lives of those who are disposed to exert themselves when a fire happens to break out in the said town” establishes that it was a fire safety measure.

Sect. 2. And be it further enacted by the authority aforesaid, That all canon, swivels, mortars, howitzers, cohorns, fire-arms, grenades, and iron shells of any kind, that shall be found in any dwelling-house, out-house, stable, barn, store, ware-house, shop, or other building, charged with, or having any dwelling in them any gun-powder, shall be liable to be seized by either of the Firewards of the said town...

You were free to keep small arms, cannon, small artillery, bombs, and grenades at home, as long as they were unloaded. Why was there a need for such a law unless firearms (and artillery) were at least occasionally left loaded? Would we pass a law today ordering that you not leave children unsupervised at a pool if no one did this?

Roth at ¶ 21 asserts: “Otherwise, however, colonists seldom went about with loaded guns, except to hunt, control vermin, or muster for militia training.” His source is himself. Almost every

¹⁷² Id., 2:72.

colony required colonists to carry arms to church for security against either Indian attack or slave rebellion, or while travelling out of the colony.¹⁷³ It is certainly possible that except when ordered to do so, colonists were not generally armed. Roth needs more than his say-so. That so many

¹⁷³ 1770 Georgia: "An act for the better security of the inhabitants by obliging the male white persons to carry fire arms to places of public worship." 19(part 1) THE COLONIAL RECORDS OF THE STATE OF GEORGIA (1910), :137-140. this law required all white male inhabitants to carry either a long gun or a pair of pistols to church Id. at 138; "That the church warden or church wardens of each respective parish, and the deacons, elders or select men... to examine all such male persons" to make sure that they were armed." Id. at 138, 139.

1642 Maryland: "'Noe man able to bear arms to goe to church or Chappell or any considerable distance from home without fixed gunn and 1 Charge at least of powder and Shott." 3 ARCHIVES OF MARYLAND 103 (1885);

1630/1 Massachusetts: "Further, it is ordered, that noe pson shall travel single betwixte theis plantation & Plymouth, nor without some armes, though 2 or 3 togeathr." 1 RECORDS OF THE GOVERNOR AND COMPANY OF THE MASSACHUSETTS BAY IN NEW ENGLAND 85 (1853); 1636/7 Because of the danger of Indian attack, and because much of the population was neglecting to carry guns, every person above eighteen years of age (except magistrates and elders of the churches) were ordered to "come to the publike assemblies with their muskets, or other peeeces fit for servise, furnished with match, powder, & bullets, upon paine of 12d. for every default". And no person shall travel above one mile from his dwelling house, except in places wheare other houses are neare together, without some armes, upon paine of 12d. for every default." Id. at 190.

1646 New Haven Colony When militiamen were called by the beating of the drum "to the publike worship of God" they were to show up "with their armes compleat, their guns ready charged, with their match for their matchlocks and flints ready fitted in their firelocks". RECORDS OF THE COLONY AND PLANTATION OF NEW HAVEN, FROM 1638 TO 1649 `32 (1857);

1641 Plymouth Colony "It is enacted That every Towneship within this Government do carry a competent number of pieeces fixd and compleate with powder shott and swords every Lord's day to the meetings--one of a house from the first of September to the middle of November, except their be some just & lawfull impedymnt." THE COMPACT WITH THE CHARTER AND LAWS OF THE COLONY OF NEW PLYMOUTH 70 (1836); 1658: ordered 1/4 of the militia "carry theire armes" to church every Sunday, defined as "some serviceable peece and sword and three charges of powder and bullets" or be fined "2 shillings and six pence...." Id. at 115; 1681: Also, the statute of 1658 requiring 1/4 of the militia to bring their guns to church every Sunday was updated to require "six charges of powder same shott" from "beginning of Aprill to the end of October yearly...." Id. at 192, 193;

1639 Rhode Island "It is ordered, that noe man shall go two miles from the Towne unarmed, eyther with Gunn or Sword; and that none shall come to any public Meeting without his weapon." There was a fine of five shillings for failing to be armed in either circumstance." 1 RECORDS OF THE COLONY OF RHODE ISLAND AND PROVIDENCE PLANTATIONS, IN NEW ENGLAND 94 (1856); 1643 reiterated an earlier order "for every man to have so much powder, and so many bullets, and so the forwarning is to stand still in force; and also that every man do come armed unto the meeting upon every sixth day" 1 RECORDS OF THE COLONY OF RHODE ISLAND AND PROVIDENCE PLANTATIONS, IN NEW ENGLAND 79, 80 (1856);

1743 South Carolina required: "That within three months from the time of passing this Act , every white male inhabitant of this Province , (except travellers and such persons as shall be above sixty years of age,) who, by the laws of this Province is or shall be liable to bear arms in the militia of this Province, either in times of alarm or at common musters, who shall, on any Sunday or Christmas day in the year, go and resort to any church or any other public place of divine worship within this Province , and shall not carry with him a gun or a pair of horse pistols , in good order and fit for service, with at least six charges of gun- powder and ball , and shall not carry the same into the church or other place of divine worship as aforesaid , every such person shall forfeit and pay the sum of twenty shillings" 7 THE STATUTES AT LARGE OF SOUTH CAROLINA: EDITED UNDER AUTHORITY OF THE LEGISLATURE 417 (1840);

1619 Virginia "All persons whatsoever upon the Sabaoth daye shall frequente divine service and sermons both forenoon and afternoon, and all suche as beare armes shall bring their pieces swordes, poulder and shotte. And every one that shall transgresse this lawe shall forfaicte three shillinges a time to the use of the church." NARRATIVES OF EARLY VIRGINIA 1606-1625 273 (1907).

colonists were regularly carrying loaded firearms without murdering each other suggests technology was not the reason for colonial New England's peace.

C. Homicide in the Early Republic/Population Density

Most baffling is Roth's apparent indifference to the role of population density. At ¶24: "By the 1820s, rates had fallen to 3 per 100,000 adults per year in Cleveland and Philadelphia, to 2 per 100,000 in rural Ohio, and to 0.5 per 100,000 in northern New England. Only New York City stood out, at 6 per 100,000 adults per year." New York City had 123,706 people at the 1820 census; Philadelphia 63,802. These were the two largest cities in America.¹⁷⁴ The anonymity of large cities makes it far easier for a murderer to escape justice; this is such a large oversight as to make me scratch my head in wonder that he could compare areas of such radically different densities with no apparent awareness that population density might explain these murder rate differences.

At ¶24, Roth claims: "And the proportion of domestic and nondomestic homicides committed with firearms was similarly low—between 0 and 10 percent—because people once again generally refrained, as they had from the Glorious Revolution through the French and Indian War, from going about armed, except to hunt, control vermin, or serve in the militia." We now that they did not go around armed because they were not murdering each other? This is circular reasoning. Perhaps there were few reasons to kill each other. In many states today, most of the adult population is allowed to carry concealed firearms without a license and many are regularly armed and we still have low murder rates.

¹⁷⁴ U.S. Census, *1820 Fast Facts*, https://www.census.gov/history/www/through_the_decades/fast_facts/1820_fast_facts.html, last accessed February 6, 2023.

At ¶26, more circular reasoning: “Because gun use was generally limited to hunting, controlling vermin, or serving in the militia, there was little interest among public officials in the North in restricting the use of firearms during the Early National period, except in duels.” Or people generally behaved themselves, so there was no need to regulate the practice. That legislatures passed surety bond laws suggests that not everyone behaved themselves, so there was *some* regulation.

At ¶27:

Laws restricting the everyday use of firearms did appear, however, in the early national period in a number of slave states, where violence among citizens increased after the Revolution to extremely high levels. Revolutionary ideas and aspirations wreaked havoc on the status hierarchy of the slave South, where homicide rates ranged from 8 to 28 per 100,000 adults per year. Poor and middle-class whites were increasingly frustrated by their inability to rise in a society that remained class-bound and hierarchical.

Since Roth cites me as a source for part of this, I find it curious that he did not consider the evidence I found that this murder problem was an outgrowth of the backcountry honor culture, which was also the origin of the dueling problem that by Roth’s admission in the previous sentence was the target of Northern legislation. It was also the target of much Southern legislation and involved not just “Poor and middle-class whites” but people held back from legislative, judicial, and militia positions by “dueling oaths” requiring them to swear that they had not participated in a duel after a particular, often frequently changing date.¹⁷⁵

“The justices of the Louisiana Supreme Court echoed these sentiments—‘unmanly’ men carried concealed weapons to gain ‘secret advantages’ over their adversaries.” He cites his book

¹⁷⁵ Example: LAWS OF THE STATE OF INDIANA, PASSED AND PUBLISHED AT THE SECOND SESSION OF THE GENERAL ASSEMBLY 362-365 (1818).

instead of a Louisiana Supreme Court decision. And his book cites my book. Why not look up the decision itself?¹⁷⁶ This is not terribly persuasive evidence of scholarship.

At ¶31, Roth describes Georgia's 1837 law "against the unwarrantable and too prevalent use of deadly weapons." He then buries in a footnote that the law did not survive the Georgia Supreme Court. This seems like rather a big deal. While *Nunn v. State* upheld the concealed carry ban part of the law, the decision also ruled that: "The right of the whole people, old and young, men, women and boys, and not militia only, to keep and bear arms of every description, and not such, merely as are used by the militia, shall not be infringed, curtailed, or broken in upon, in the smallest degree..." This is a rather important point.

Roth recounts likely causes of changes in murder rates but makes no attempt to quantify relationships between these changes and murder rate changes. Many of his likely causes are not prone to quantification. Nonetheless, some are. If slavery drove high murder rates in the South, an obvious test would be to attempt to draw a correlation between slaves per 100,000 population by state, or even more ideally, by county. A perhaps more subtle measure might be what percentage of slave holders were "planters," those holding 20 or more slaves. It is hard to take seriously claims about relationships of various factors to murder rates when not even this basic statistical analysis has been demonstrated.

D. From the Mexican War through the Early Twentieth Century

Roth opens ¶33 with a statement that is utterly false. "By the early twentieth century, every state either banned concealed firearms or placed severe restrictions on their possession." No state banned concealed firearms, or even placed restrictions on possession. Concealed carry was heavily regulated. In the footnote he observes: "

¹⁷⁶ *State v. Chandler*, 5 La. An. 489, 490, 491 (1850).

These sources identify laws that either banned concealed firearms or placed severe restrictions on their possession in every state except Vermont. However, Vermont also had such a law by the early twentieth century. *See* An Act Against Carrying Concealed Weapons, No. 85, § 1 (12th Biennial Session, General Assembly of the State of Vermont, Nov. 19, 1892) (“A person who shall carry a dangerous or deadly weapon, openly or concealed, with the intent or avowed purpose of injuring a fellow man, shall, upon conviction thereof, be punished by a fine not exceeding two hundred dollars, or by imprisonment not exceeding two years, or both, in the discretion of the court.”).

What makes this claim in the footnote misleading is that the Vermont Supreme Court overturned a Rutland ordinance that banned concealed carry, while upholding the state law which required that the carrier did so “with the intent or avowed purpose of injuring a fellow man.” Without that criminal intent, the Court ruled, the Vermont Constitution’s right to keep and bear arms provision took precedence over a city ordinance.¹⁷⁷

Another misleading part of this claim is that some states passed concealed carry bans and then repealed them. California banned the carrying of concealed weapons in 1864.¹⁷⁸ It then repealed the law in 1870.¹⁷⁹ Newspapers that hailed the new law also hailed its repeal. The reason has some relevance to Roth’s claims. One editorial argued that the law:

bothers the good and assists the bad. It disarms the orderly citizen and places no obstruction in the way of the robber. Homicides were very common some years ago in California, and their frequency was partly due to the general custom among the miners of carrying revolvers and large knives. They were mostly single men, who would occasionally drink freely, and under the influence of strong liquor they did not hesitate to take life in case of a quarrel. But of late years, families have increased, dissipation has decreased, and drunken affrays are more rare. At the same time, robbery on the highway, and especially in this city, is more frequent.¹⁸⁰

Roth at ¶34 then observes that with respect to homicide:

But in the late 1840s and 1850s those rates exploded across the United States and spiked even higher during the Civil War and Reconstruction, not only in the South

¹⁷⁷ State v. Rosenthal, 75 Vt. 295, 55 A. 610 (1903)

¹⁷⁸ 1 GENERAL LAWS OF THE STATE OF CALIFORNIA, FROM 1850 TO 1864, INCLUSIVE 1585 (1870).

¹⁷⁹ California sess. Laws ch. 63 (1869-70).

¹⁸⁰ *The Carrying of Concealed Weapons*, DAILY ALTA CALIFORNIA, Mar. 13, 1869, 2.

and the Southwest, where rates had already risen in the early national period, but in the North.

Most curious people would ask which was the direction of causality between widespread passage of bans on concealed weapon carrying and a rising homicide rate. Both directions are plausible, if that editorial from the Daily Alta California is to be believed. It is apparent that Prof. Roth did not consider that possibility.

At ¶36: “Thus cap-and-ball revolvers, like muzzle-loaders, could not be loaded quickly, nor could they be kept loaded indefinitely without risk of damaging the charge or the gun. But they were deadlier than their predecessors, because they made it possible for a person to fire five or six shots in rapid succession.” Yes, there was evolution of firearms technology during the early Republic, but Colt’s important advances receive too much attention from Roth. From the late 18th century, gun makers made repeating handguns called pepper-boxes.

The flintlock firing mechanism made them prone to “chain fire” as flame from the first detonation would sometimes spread to the others, limiting their commercial value.¹⁸¹ The development of the percussion cap certainly made them more practical. While a percussion cap could certainly be detonated by flame, it was less likely than gunpowder in the pan of a flintlock mechanism.

Pepper-boxes used multiple barrels that usually required the user to rotate the barrel assembly for each shot; at least one ad from 1838 offers what (if accurately described) would have put it ahead of Colt’s early revolvers: “SELF-COCKING AND REVOLVING SIX BARREL

¹⁸¹ *Flintlock Pepperbox, Hand Rotated Four Barrel Cluster, .24-Claiber, Four Shot Unknown Maker, Likely Experimental, American, English or Continental Circa 1780-1820*, ANTIQUE ASSOCIATES, <https://www.aaawt.com/html/firearms/fl1117.html>, last accessed March 8, 2023; *An Exceptional 88-Bore Flintlock Seven-Barrel Box-Lock Pepperbox Revolver By John Twigg, London, circa 1781-87*, Bonham’s, <https://www.bonhams.com/auction/26792/lot/348/an-exceptional-88-bore-flintlock-seven-barrel-box-lock-pepperbox-revolver/>, last accessed March 8, 2023;

POCKET PISTOL.... This pistol revolves the six barrels, cocks itself and discharges merely by pulling the trigger, placing a man with but one hand on an equality with six men, each with the ordinary pocket pistol.”¹⁸² Some transitional pepperboxes built to avoid infringing on the Colt patents fit this description (double-action trigger that also indexes the barrels).¹⁸³

While pepper-box pistols had a poor reputation for being more hazard to the shooter than the target, perhaps based on the necessarily dangerous flintlock method of firing, you can see examples of antique percussion pepperboxes being fired without any injuries or death to the shooter.¹⁸⁴

At ¶37: “Smith and Wesson’s seven-shot, .22 caliber, breech-loading, Model 1 rimfire revolver, invented in 1857, appeared on the market when the homicide crisis was already well underway.” Perhaps Roth should consider whether the homicide crisis was because of revolvers or was the homicide crisis the cause of revolver popularity. By his own admission in ¶35: “Concealable fighting knives, together with concealable percussion-cap pistols, remained the primary murder weapons.” The current issue with “assault weapons” and LCMs may be more a symptom of larger problems. If you do not address those root causes, you may only change the method of murder.

At ¶38: “Smith and Wesson had created a near-perfect murder weapon. It was lethal, reliable, easy to carry and conceal, capable of multiple shots, and ready to use at any time.” They had also created a near-perfect weapon of self-defense. That also describes the sidearm carried by every police officer and millions of law-abiding Americans. Roth has just admitted his biases.

¹⁸² *Self-Cocking and Revolving Six Barrel Pocket Pistol*, [Washington, D.C.] THE MADISONIAN, Dec. 22, 1838, 1.

¹⁸³ *English Transitional Pepperbox Revolver*, FORGOTTEN WEAPONS, <https://www.youtube.com/watch?v=w3MZJsnqy6E>, last accessed March 9, 2023.

¹⁸⁴ *Antique Pepperbox Pistol 1850's Washington Arms Co*, <https://www.youtube.com/watch?v=jiSkuUmKW5E>, last accessed March 9, 2023.

At ¶40: Easily concealed, [revolvers] became the weapons of choice for men who stalked and ambushed estranged spouses or romantic partners, for suspects who killed sheriffs, constables, or police officers, and for self-styled toughs who engaged in shootouts in bars, streets, and even churchyards.” Also, for estranged spouses or romantic partners, sheriffs, constables, or police officers, targets of self-styled toughs, and intended victims of mass murderers. “CHICAGO, Apr. 5. Two men were killed and three wounded today when a former employee of the W. A. Foundry & Machine Company walked into the offices of the concern and began firing with two pistols. He was then shot and killed by the plant superintendent, who opened fire in return.”¹⁸⁵

At ¶40, Roth tells us: “As modern, breech-loading firearms replaced the muzzle-loading and cap-and-ball gunstock from the late 1850s through World War I, the proportion of homicides committed with firearms continued to climb even when homicide rates fell for a short time, as they did at the end of Reconstruction.” Again, Roth’s insistence on including lawful defensive killings in “homicides” tells us nothing about whether this changing homicide rate was good or bad. If toughs, estranged lovers, or criminals using clubs or fists were the dead and the shooters were their intended victims, it could just as well explain “the proportion of homicides committed with firearms continued to climb even when homicide rates fell for a short time.” Roth’s data is interesting from an epidemiological standpoint but perhaps not useful for understanding murder.

¶40: “Ominously, too, firearms invaded families and intimate relationships, so relatives, spouses, and lovers were as likely to be killed with guns as unrelated adults—something that had never happened before in America’s history.” Since Roth has repeatedly shown us data on unrelated homicides for colonial America, he should show us some actual data on this change,

¹⁸⁵ “Former Employe[sic] Kills 2; Wounds 3,” Bisbee [Ariz.] Daily Review, Apr. 6, 1922, 1.

rather than just opening the sentence with “Ominously.” Certainly, there was no shortage of mass murders in families in this period using non-firearms. “Here are just a *few* examples: axes,¹⁸⁶ hammers,¹⁸⁷ knives,¹⁸⁸ poison,¹⁸⁹ drowning,¹⁹⁰ and strangling.¹⁹¹ I have hundreds more depressing examples.

Starting at ¶41, Roth reaches to laws passed after 1868, the cutoff line as far as *Bruen* is concerned.

Prof. Roth argues in ¶22 that the Founding Generation believed public safety threats “could be checked only by statutes that placed limits on basic rights.” I do not dispute this claim, but if Revolutionary standards are a basis for current laws, what will Prof. Roth’s response be to a 1792

¹⁸⁶ *Trial of Abel Clements*, [Richmond, Va.] *Virginia Argus*, Jul. 19, 1806, 2 (man murdered wife and eight children).

¹⁸⁷ *Murdered Her Children*, [Jonesboro, Tenn.] *HERALD AND TRIBUNE*, Jun. 11, 1874, 1 (Woman bashes her husband in the back of the head with a cooper’s adze (a specialized type of hammer), an injury expected to be eventually fatal. While seeking medical and police assistance, the woman beat to death her three children with an iron); *A Family Slain*, *KANSAS CITY JOURNAL*, Mar. 4, 1899, 1 (The missing father apparently beat to death his wife and their four children with a hammer.); *Insane Farmer Kills His Family*, *Butler [Mo.] Weekly Times*, Mar. 19, 1903, 7 (A farmer murdered his wife and six children with a sledgehammer then used it on himself); *Four Men Killed*, *SAVANNAH MORNING NEWS*, Aug. 18, 1903, 1 (Physician “[c]razed by drink” attacked his wife; when she returned he had beaten their three children to death with a claw hammer.)

¹⁸⁸ *Three murdered and a Suicide*, *MUSCATINE [IOWA] WEEKLY JOURNAL*, Jan. 11, 1861, 1 (Murderer, “after a social interview with some of his neighbors, which ended with singing and prayer” murdered his wife, a son, and a daughter with a knife.); *Shocking Murder in York County, Pennsylvania*, [Richmond, Va.] *DAILY DISPATCH*, Jun. 22, 1866, 1 (Robber murdered farmer George Squibb, his wife, and granddaughter with a knife.); *A Wife and Three Children Murdered by the Husband-Father*, *CAIRO [ILL.] EVENING BULLETIN*, Dec. 3, 1869, 1 (Man murders his wife and three children, cutting their throats.)

¹⁸⁹ *A Modern Borgia*, *NASHVILLE UNION AND AMERICAN*, Oct. 27, 1868, 1 (Servant girl poisons family of seven with Paris green, an arsenic rat poison.); *Families Poisoned*, [Austin, Minn.] *MOWER COUNTY TRANSCRIPT*, May 2, 1872, 1 (A boarder poisoned three of Mrs. Tibner’s children because Mrs. Tibner would not lend him \$1; he later confessed to his crime, and the murder of his wife and their child.); *A Shoemaker Named Geistlach...*, [Winsboro, S.C.] *NEWS AND HERALD*, Jun. 18, 1878, 1 (Mrs. Geistlach and her two children found dead from chloroform poisoning. Because she was illiterate, investigators considered her suicide note a forgery. Her husband, an out of work shoemaker, had disappeared, leading to suspicion that he was the actual killer.); *An Inhuman Step-Mother*, [Washington, D.C.] *EVENING STAR*, Jun. 15, 1869, 1; [Franklin, La.] *PLANTERS’ BANNER*, Sep. 1, 1869, 1 (Stepmother drowns three children from husband’s previous marriage out of jealousy. The river was only two feet deep, so she held them under “until life was extinct.”)

¹⁹⁰ *Caucasian Cruelty*, *ST. PAUL DAILY GLOBE*, Dec. 16, 1888, 1 (Man murders his wife and two children, drowning them with iron weights.); *Drowned Her Six Children*, *ADAMS COUNTY NEWS [Ritzville, Wash.]* Feb. 27, 1901, 4 (A woman threw her six children down a 30 foot deep well, “then jumped into the well, and, the belief is, held their heads under water until all were drowned.”)

¹⁹¹ *State Specials*, *DALLAS DAILY HERALD*, Apr. 16, 1881, 1 (Mrs. John Simmons, her four year-old son and her mother-in-law” were murdered. Mrs. Simmons had been “outraged” before the cutting of her throat; the mother-in-law strangled and the son murdered by dashing “the brains of his little son out upon the rocks.”)

“An act for the punishment of lewdness, adultery and polygamy?”¹⁹² Would New York State’s capital punishment of buggery¹⁹³ and Massachusetts’ “An Act Against Sodomy”¹⁹⁴ have a similar claim? Would the Pennsylvania Constitution 1776 provision:

And each member, before he takes his seat, shall make and subscribe the following declaration, viz:

I do believe in one God, the creator and governor of the universe, the rewarder of the good and the punisher of the wicked. And I do acknowledge the Scriptures of the Old and New Testament to be given by Divine inspiration.¹⁹⁵

If you intend to murder several people in a short period of time, an ax or a knife remains a sufficient weapon. They are cheap and silent. They draw no attention to your actions or provide warning to other potential victims.

E. Irrelevant Laws

Roth at ¶¶26-27 discusses the development of concealed weapon regulation, much of it directed at knives, and sometimes leaving firearms completely unregulated, such as Tennessee’s 1838 law.¹⁹⁶ If Roth’s point is that the early Republic found acceptable the regulation of concealed carry of deadly weapons, its relevance to possession or sale of LCMs and “assault weapons” (most of which would be concealable only by ten-foot-tall criminals), as is the objective of the New Jersey law, seems unclear.

¹⁹² *Laws of the State of New-Hampshire* 257-8 (1792).; Laurel Thatcher Ulrich, *A Midwife’s Tale: The Life of Martha Ballard, Based on her Diary, 1785-1812*, (New York, Random House, 1990), 291-307; Horrid Murder! At an early hour on Wednesday morning last, the inhabitants of this town were alarmed with the dreadful information..., (Augusta, Me., 1806), 1 (murdered his wife and seven of his eight children with an axe or knife); “Miscellaneous Clippings,” Wyandot [Ohio] Pioneer, Feb. 27, 1863, 2 (Woman murdered three stepchildren with an ax); “The Philadelphia Horror,” Chicago Tribune, Apr. 3, 1869, 2; “Horrible Murder,” [Irasburgh, Vt.] Orleans Independent Standard, Apr. 13, 1869, 3; “The Late Terrible Tragedy in Philadelphia,” [Washington, D.C.] Evening Star, Apr. 1, 1869, 1 (A man with ax murdered his wife and two children)

¹⁹³ 1 *Laws of the State of New-York* 336 (1792).

¹⁹⁴ *Perpetual Laws of the Commonwealth of Massachusetts* 187 (1789).

¹⁹⁵ Pennsylvania Const. § 10 (1776).

¹⁹⁶ *Acts Passed at the First Session of the Twenty-Second General Assembly of the State of Tennessee: 1837-8* ch. 137 at 200-201 (1838),

Even conceding antebellum constitutionality of regulation of concealed carry, the Tennessee Supreme Court decision upholding the 1838 concealed knife law has something to say about “weapons of war”:

To make this view of the case still more clear, we may remark, that the phrase, “*bear arms*,” is used in the Kentucky constitution as well as in our own, and implies, as has already been suggested, their military use. The *28th section of our bill of rights* provides, “that no citizen of this State shall be compelled to *bear arms*, provided he will pay in equivalent, to be ascertained by law.” Here we know that the phrase has a military sense, and no other; and we must infer that it is used in the same sense in the *26th section*, which secures to the citizen the *right to bear arms*. A man in the pursuit of deer, elk and buffaloes, might carry his rifle every day, for forty years, and, yet, it would never be said of him, that he had *borne arms*, much less could it be said, that a private citizen *bears arms*, because he has a dirk or pistol concealed under his clothes, or a spear in a cane. So that, with deference, we think the argument of the court in the case referred to, even upon the question it has debated, is defective and inconclusive.¹⁹⁷

If only military arms are protected, then these weapons that we are told are “weapons of war,” must be protected arms. This must be what that James Madison, author of the Second Amendment, meant when in Federalist 46 he wrote about the potential danger of a tyrannical national government:

Let a regular army, fully equal to the resources of the country, be formed; and let it be entirely at the devotion of the federal government; still it would not be going too far to say, that the State governments, with the people on their side, would be able to repel the danger. The highest number to which, according to the best computation, a standing army can be carried in any country, does not exceed one hundredth part of the whole number of souls; or one twenty-fifth part of the number able to bear arms. This proportion would not yield, in the United States, an army of more than twenty-five or thirty thousand men. To these would be opposed a militia amounting to near half a million of citizens with arms in their hands,...

Roth speaks approvingly of *Nunn v. State* (Ga. 1846) and its acceptance of concealed carry regulation but misses its important protection for arms possession and carry:

The right of the whole people, old and young, men, women and boys, and not militia only, to keep and bear arms of every description, and not such merely as are used

¹⁹⁷ *Aymette v. State*, 21 Tenn. (2 Hump.) 154, 161 (1840)/

by the militia, shall not be infringed, curtailed, or broken in upon, in the smallest degree; and all of this for the important end to be attained: the rearing up and qualifying a well-regulated militia, so vitally necessary to the security of a free State. Our opinion is, that any law, State or Federal, is repugnant to the Constitution, and void, which contravenes this right, originally belonging to our forefathers, trampled under foot by Charles I. and his two wicked sons and successors, reestablished by the revolution of 1688, conveyed to this land of liberty by the colonists, and finally incorporated conspicuously in our own Magna Charta! And Lexington, Concord, Camden, River Raisin, Sandusky, and the laurel-crowned field of New Orleans, plead eloquently for this interpretation!¹⁹⁸

Also Roth refers to “prohibitions against carrying certain concealable weapons...” It was only if the weapons were *concealed*, not concealable. A pistol or Bowie knife might well be concealable, but if openly carried, it was still lawful. Tennessee prohibited sale of fighting knives and concealed carry, but open carry remained lawful with an added penalty if the bearer injured another party with no apparent requirement that the knife be concealed.¹⁹⁹

¶27 Roth asserts that in the 1830s several states “passed laws ... that restricted the use or ownership of certain types of weapons.” I can find no laws restricting ownership, only prohibitions on concealed carry with sentence enhancements for criminal use while carrying openly (Texas,²⁰⁰ Tennessee²⁰¹). Many of these statutes prohibited or taxed prohibitively the sale or transfer of such weapons (Alabama,²⁰² Georgia,²⁰³ Tennessee.²⁰⁴) without prohibiting ownership.

At ¶28 n. 55, Roth informs us that “These sources identify laws that either banned concealed firearms or placed severe restrictions on their possession in every state except Vermont. However, Vermont also had such a law by the early twentieth century. *See An Act Against*

¹⁹⁸ *Nunn v. State*, 1 Ga. 243, 250, 251 (1846).

¹⁹⁹ 1838 Tenn. Ch. 137 § 4.

²⁰⁰ See *Cockrum v. State*, 24 Tex. 394, 402 (1859).

²⁰¹ 1838 Tenn. Ch. 137 § 4.

²⁰² 1837 Ala. Ch. 11, § 2.

²⁰³ *Acts of the General Assembly of the State of Georgia Passed in Milledgeville at an Annual Session in November and December, 1837* (Milledgeville: P. L. Robinson, 1838), 90-91 § 1.

²⁰⁴ 1838 Tenn. Ch. 137 § 1.

Carrying Concealed Weapons, No. 85, § 1 (12th Biennial Session, General Assembly of the State of Vermont, Nov. 19, 1892).”

An Andrew Rosenthal was convicted in Rutland City Court of violating city ordinance No. 10, “prohibiting a person from carrying within the city any brass knuckles, pistol, slung shot, or weapon of similar character, or any weapon concealed on his person, without permission of the mayor or chief of police,” though in what way, and with what arms, is not told by the headnotes or the decision. The Vermont Supreme Court struck down the ordinance based on the Vermont Constitution “art. 16, [which] declares that the people have a right to bear arms for the defense of themselves and the state,” and that the ordinance in question “so far as it relates to the carrying of a pistol under any circumstances without such consent, is repugnant to the Constitution, and to that extent void.”

Vermont Statutes §4922 prohibited the carrying of arms, “with the intent or avowed purpose of injuring a fellow man”:

Under the general laws, therefore, a person not a member of a school may carry a dangerous or deadly weapon, openly or concealed, unless he does it with the intent or avowed purpose of injuring another; and a person who is a member of a school, but not in attendance upon it, is at liberty, in a similar way, to carry such weapons.²⁰⁵

The Court pointed out that the Rutland ordinance banned any carrying of a weapon concealed, whether a criminal intent was present or not, and was therefore contrary to the “Constitution and the general laws of the state.” The Court emphasized that while other parts of the Rutland ordinance might be also invalid, these were “questions not now before the court.”²⁰⁶

²⁰⁵ *State v. Rosenthal*, 75 Vt. 295, 55 Atl. 610, 611 (1903).

²⁰⁶ *Id.*

Roth at ¶28, informs us that “the invention of new firearms, especially the revolver, which enabled the firing of multiple rounds in succession without reloading and made the homicide problem worse.” This is a strong assertion, in desperate need of evidence. The only sources listed are Roth and a paper co-authored by Roth about Old West Homicide rates, which paper makes no reference to revolvers, Colt, pistol, or handgun.²⁰⁷ Referencing your own claims is unpersuasive.

Because Colt production for the commercial market started in 1848,²⁰⁸ with the apparent swarm of murder rate data in Roth’s possession, one might expect a table showing the steady rise in murder rates starting in 1848. Where is it? This increase in production was not subtle and should be considered cumulative in its effects; firearms are quite durable. This page from the Colt factory shows an order by *one* distributor for 200 7-shot revolvers per week:

²⁰⁷ Randolph Roth, Michael D. Maltz, and Douglas L. Eckberg, “Homicide Rates in the Old West,” *Western Historical Quarterly* 42 (2011): 173-195.

²⁰⁸ David A. Hounshell, *From the American System to Mass Production 1800-1932: The Development of Manufacturing Technology in the United States* 47 (1984).

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62 673. Hartford Conn Dec. 31. 1874
Messrs Schuyler Hartley & Graham
1760 New York.
Gentlemen

Your favor of the 29th inst
came to hand this AM. and in reply would say
that the stock of new Docket that we have on hand
and in the works cannot exceed 2000 Pistols of these
about 1500 are finished. The remainder are in the
works, of those on hand there are about an equal
quantity of 4 1/2, 5 1/2 and 6 1/2 inch. In altering
them over into Breach Loaders we could make them
all 4 1/2 inch if desired. We will let the "Allies" have
them as they are (O & B) at 4⁰⁰ Ea net or we will
alter them into Breach Loaders at 5⁰⁰ Ea net.
It would require about 60 days to alter 12 to 1500.
We are prepared to act on the 38 & 41 cal's when we
hear or receive any encouragement from the Allies
and as stated to Mr Moore when in Hartford.
With the compliments of the season. We remain,
Yours truly
(Signed) Hugh Harrison Treas.

At ¶34, Roth claims:

By the eve of World War I, rates had fallen in the New England states to 1 to 4 per 100,000 adults per year, to 2 to 5 per 100,000 in the Prairie states, and 3 to 8 per 100,000 in the industrial states. In the West, rates had fallen to 12 per 100,000 adults per year in California, 15 per 100,000 in Colorado, and approximately 20 to 30 per 100,000 in Arizona, Nevada, and New Mexico. Homicide rates whipsawed, however, in the South. They fell in the late 1870s and 1880s, only to rise in the 1890s and early twentieth century, to just under 20 per 100,000 adults in Florida, Kentucky, Louisiana, Missouri, and Tennessee, and 35 per 100,000 in Virginia and North Carolina.

With all these advanced technology firearms on the market and cumulatively in private hands, it seems odd that murder rates fell in most of the country while rising in the South. Perhaps it was not the firearms, but the social upheaval of the end of Reconstruction and the rise of Jim Crow that caused increasing murder rates there? Having grabbed onto his preference for blaming revolvers, he suddenly loses interest in the larger social changes that were heavily concentrated in the one region where murder rates were rising. Worse for Roth's argument, in ¶35-36, he recounts how Texas, Tennessee, and Arkansas adopted increasingly strict gun carrying laws over the period in which he tells us murder rates were rising in the South. Somehow more revolvers caused more murders in the gun control leading South but the opposite in the rest of America.

After describing how California repealed its ban on concealed carrying of weapons, he asserts that "public sentiment veered back toward the belief that the effort to make California less violent was hopeless, and that the only protection law-abiding citizens could hope for was to arm themselves." Roth cites an article on which I was co-author but somehow missed the quote from one of the newspapers that applauded the repeal:

Homicides were very common some years ago in California, and their frequency was partly due to the general custom among the miners of carrying revolvers and large knives. They were mostly single men, who would occasionally drink freely, and under the influence of strong liquor they did not hesitate to take life in case of a quarrel. *But of late years, families have increased, dissipation has decreased, and*

drunken affrays are more rare. At the same time, robbery on the highway, and especially in this city, is more frequent.²¹⁰ [emphasis added]

California had become less violent because of demographic changes and only seemed to need armed citizens to discourage robbery.

More evidence that Roth is not reading carefully is ¶45 n. 95:

Note that the title of the Cramer and Olson essay is misleading. It does not refer to the origins of the laws discussed here or to the ways in which they were enforced. It refers instead to an unsuccessful effort in 1878 and a successful effort in 1923 to deny resident aliens the right to bear arms.

Yet his source for the “laws discussed here” is the paper that “does not refer to the origins of the laws discussed here...” Somehow he missed “C.California’s First Concealed Weapon Law,” and “A.California’s Second Concealed Weapon Law & Pancho Villa,” and “B.California’s Third Concealed Weapon Law.”

F. Roth’s Irrelevant Technical Errors

At ¶58, Roth goes into a technical discussion of the M-16 and compares it to the ArmaLite [sic] AR-15 as “the civilian version of the M-16.” While many parts are common between the two weapons, and a few intentionally incompatible, the most relevant aspects are the cartridge and speed of fire. While 3,300 feet per second suggests an enormously powerful bullet, it is less powerful than many common hunting rifles. The muzzle energy of the metal case 55 grain cartridge is 1,282 foot-pounds. The widely used for hunting .308 Winchester is 2,648 foot-pounds. Both are quite lethal, but the .308 Winchester is more destructive at 200 yards than the .223 Remington at the muzzle.²¹¹ If the speed or power of the AR-15’s cartridge is relevant, it is a

²¹⁰ *The Carrying of Concealed Weapons*, DAILY ALTA (SAN FRANCISCO) CALIFORNIA 2 Mar. 13, 1869.

²¹¹ Sportsman’s Guide, *Rifle Ballistics Charts*, <https://www.sportsmansguide.com/ballisticscharts/rifle>, last accessed February 6, 2023.

reminder that a hunting rifle expertly fired is quite deadly. The mass murderer at the University of Texas in 1966 murdered fourteen people.²¹² He was a skilled marksman using a very traditional hunting rifle: a Remington 700. He also had two more rifles, a shotgun, and three pistols with him.²¹³

A shortage of LCMs can always be solved by carrying more guns. Two examples: The mass murderer at ESL in Sunnyvale in 1988 arrived at the scene carrying “three handguns, including 9mm Browning semiautomatic pistol and a .380-cal. semiautomatic pistol, a .30-06 high-powered rifle and a 12-gauge shotgun -- the weapon used in all the killings.”²¹⁴ The .30-06 is a standard hunting rifle caliber; I doubt that it used detachable magazines.

In 1913, a former teacher showed up at a Bremen, Germany, Catholic school “armed with six loaded revolvers.” He killed one teacher, two children, “three children were gravely injured and three other children were slightly wounded.” The article described him as “demented.”²¹⁵ Depending on whether they were they were 5-shot, 6-shot, or 9-shot revolvers (all still common today) he could have fired 30, 36, or 54 shots without reloading.

At ¶62:

Just as dangerous, however, were modifications that helped users fire more rapidly with semiautomatic firearms. The modifications included “fixes” as simple as stretching a rubber band from the trigger to the trigger guard of an AR-15—the civilian version of the M-16, which differs from the military model only in its lack of a switch for fully automatic.

²¹² Charles Bowden, *The Men Who Stopped a Mass Murderer*, Esquire, Aug. 26, 2021, <https://www.esquire.com/news-politics/a36890935/charles-whitman-mass-shooting-university-of-texas/>, last accessed February 6, 2023.

²¹³ Craig Hlavaty, *Rifle Reported To Be Used In Charles Whitman Killing Spree Up For Sale*, *Houston Chronicle*, Sep. 24, 2014, <https://www.chron.com/news/houston-texas/texas/article/Rifle-reported-to-be-used-in-Charles-Whitman-5777479.php>, last accessed February 6, 2023.

²¹⁴ Jay Mathews, *Sudden Death In Sunnyvale*, *Washington Post*, Feb. 18, 1988.

²¹⁵ *Maniac Shot Many People*, BARRE [VT.] DAILY TIMES, Jun. 20, 1913, 1.

There are differences in other parts: hammers, bolt carrier, and lower receiver. If Roth is trying to suggest that there is some easy conversion between the two weapons, see 26 USC § 5845(b).²¹⁶ Any parts collection capable of that conversion is *already* a machine gun.

The rubber band pushes the trigger forward more rapidly after each round and enables users to fire rapid semiautomatic bursts with help of the weapon's natural recoil. There is nothing specific to the AR-15 or any other "assault weapon" about this; it works on any semiautomatic firearm. New Jersey by refusing to ban all semiautomatic firearms demonstrates that this is a cosmetic law that can be easily defeated. "The rubber band method works because manufacturers have increased the fire rate of semiautomatic weapons by decreasing the pressure it takes to pull the trigger." The cited source makes no such claim. Firearm manufactures engage in a continual battle between lighter triggers to improve accuracy and safety requirements to avoid unintentional firing. The idea that firearms manufacturers are intentionally reducing trigger pull to facilitate the rubber band solution is in need of evidence. Curiously, BATF has already made possession of a shoelace and a semiautomatic weapon (even if not an "assault weapon" into a felony.²¹⁷

¶67: "What is remarkable about the mass shootings that have plagued the United States since 1965 is that all but four involved a lone shooter, and those that have involved more than one assailant have involved only two." My research has involved mass *murders*, not just mass *shootings*. (I consider mass murder a bad thing, not just when committed with firearms.) This includes a number of mass murders since 1965 with very high death counts.

New Orleans, La. (1973)

²¹⁶ *Full Auto vs Semi Auto AR15 Bolt Carrier Group Comparison*, https://www.youtube.com/watch?v=MO3LWqaw_Wg&t=53s, last accessed February 6, 2023.

²¹⁷ See Bureau of Alcohol, Tobacco, and Firearms letter, Sep. 30, 2004, <https://claytoncramer.com/ATF-shoestring-machine-gun-2004.jpg>, last accessed February 6, 2023.

06/24/1973: The murderer took revenge for being expelled from the UpStairs Lounge, a gay bar. He walked down the street and bought a bottle of cigarette lighter fluid, killing 33 people.²¹⁸

Los Angeles, Cal. (1987)

12/7/1987: The airline fired passenger agent for theft; he used his employee ID to smuggle a gun on board, murdered his former supervisor, then killed the flight crew. He crashed the airliner crashes; killing 45. He blamed his lack of promotion on racism.²¹⁹

San Juan, P.R. (1986)

12/31/1986: Three Teamsters attempted to negotiate a better labor contract with their employer by setting a fire that murdered 97 people.²²⁰

New York, N.Y. (1990)

3/25/1990: Angry at his girlfriend, the murderer used \$1 of gasoline and a match to set fire to her place of employment, murdering 87 people, leaving three survivors.²²¹

Oklahoma City, Okla. (1995)

4/19/1995: The murderer set off a bomb in front of the federal building killing 168 people and injuring hundreds more. This was retaliation for the 1993 deaths of dozens at the Branch Davidian compound that the murderer blamed on criminal behavior by the federal government.²²²

New York, N.Y. (2001)

²¹⁸ Elisabeth Dias with Jim Down, *The Horror Upstairs*, *Time*, Jul. 1, 2013.

²¹⁹ Judith Cummings, *Kin of Suspect Defiant and Contrite*, *New York Times*, Dec. 11, 1987.

²²⁰ 3 Teamsters Charged in San Juan Hotel Fire, *Chicago Tribune*, Feb. 4, 1988, <https://www.chicagotribune.com/news/ct-xpm-1988-02-04-8803270617-story.html>, last accessed November 24, 2018.

²²¹ Ralph Blumenthal, *Fire in the Bronx; 87 Die in Blaze at Illegal Club; Police Arrest Ejected Patron; Worst New York Fire Since 1911*, *New York Times*, Mar. 26, 1990.

²²² Flowers and Flowers, *Murders in the United States*, 56-7.

9/11/2001: Terrorists fly two commercial airliners into the World Trade Center killing 3047 people, wounding far more and plunging the U.S. into war.²²³

Arlington Co., Va. (2001)

9/11/2001: Same terrorist group flies an airliner into the Pentagon killing 184 people and wounding far more.²²⁴

Somerset Co., PA (2001)

9/11/2001: Same terrorist group fights for control of an airliner against determined and courageous crew and passengers, crashing the plane into the ground before reaching their D.C. target. Forty people murdered.²²⁵

Roth's claim that recent mass *shootings* never involve more than two is *mostly* correct. One recent group mass *shooting* took place on Oct. 31, 2019, in Orinda, Cal. A conflict between gangs led to a shooting in which the murderers shot to death five people and "several others were injured."²²⁶ Mass *murders*, however, often involve larger groups such as those aforementioned.

G. Mass Murder: My Current Research Project

1. Defining Mass Murder

Since 2019, I have been researching the history of mass murder in the United States. The definition of mass murder does not have a universal definition. The FBI's definition of mass murder is four or more dead (including the killer) in one event, in one location.²²⁷ Other agencies,

²²³ FBI, Crime in the United States: 2001, Section 5, <https://ucr.fbi.gov/crime-in-the-u.s/2001/01sec5.pdf>

²²⁴ FBI, Crime in the United States: 2001, Section 5, <https://ucr.fbi.gov/crime-in-the-u.s/2001/01sec5.pdf>

²²⁵ FBI, Crime in the United States: 2001, Section 5, <https://ucr.fbi.gov/crime-in-the-u.s/2001/01sec5.pdf>

²²⁶ Annie Sciacca, 'It Was A Bloodbath': Orinda Halloween Shooting Investigation Reveals Gang Connections, San Jose Mercury-News, Nov. 17, 2019.

²²⁷ FBI, Serial Murder: Multidisciplinary Perspectives for Investigators 8 (2008), distinguishing mass murder from serial murderers. "Generally, mass murder was described as a number of murders (four or more) occurring during the same incident, with no distinctive time period between the murders."

such as the U.S. Secret Service use the term “mass attacks” in which “three or more people are harmed.”²²⁸

For my research, I have adapted the Secret Service’s definition. For purposes of this research, I slightly extended the FBI definition to include at least two murder victims committed in multiple locations within 24 hours and use the Secret Service’s “three or more people harmed.” The suicide or lawful killing of the mass murderer or murderers is not included in the total dead.

A more widely used definition of mass murder is four or more killed, making comparison with FBI and Secret Service data a bit more difficult. Throughout this report, I will provide information using both definitions.

I have excluded multiday mass murders committed in riots, such as the New York City Draft Riots of 1863, and many of the race riots of the 20th century because they were not in one location. Determining when these murders took place precludes easy classification. I also have excluded crimes such as the Colorado cannibalism murders in 1874, because it is unclear over what period the victims were murdered.

There are deaths that might qualify as mass murder, but which have circumstances that might also qualify as lawful self-defense and are thus not included.²²⁹ There are mass murders that appear to be gang-related; I have excluded many of those because determining if they were defensive in nature or not requires confidence in the integrity of the participants, who often have reason to lie.

Obviously, mass murder does not include acts of war. Mass murders committed by governments as official policy are outside the legal definition of murder. Other horrifying mass

²²⁸ U.S. Secret Service, *Mass Attacks in Public Spaces* – 2019, 6 (August, 2020).

²²⁹ *Renewal of Mob Attacks Resulting in 3 Deaths and 13 Injured on Second Day of Lawlessness Causes Governor to Act*, GREAT FALLS [MONT.] DAILY TRIBUNE, Aug. 7, 1920, at 1.

killings outside our definition include those performed by non-state actors with the acquiescence, assistance, or encouragement of local, regional, or national governments. Some mass murders were not official acts but were assisted by governmental disarming of the victims. Example: the East St. Louis race riot of 1916, where police and state militia disarmed blacks in advance of a non-governmental mass murder.

East St. Louis, Ill. (1916)

7/7/1916: “Cowardly Police and Militia Search Negroe’s [sic] Homes, Disarm Them, and Then Turn Them Over to the Blood-Thirsty Demons Clamoring For Their Lives. Without Arms or Protection 38 are Killed, More Than 200 Wounded and 325 Negro Homes are Burned and Looted.”²³⁰ “I killed seventeen last night,” he said, grinning as he shifted an ax he was carrying from one hand to the other. “And I am going to get a few more if I get a chance.”²³¹

Category: public.

Suicide: No

Cause: Racism

Weapon: at least 17 by ax.²³²

Also excluded are governmentally supported acts of mass murder committed outside the rules of land warfare. The bombing of the Soo Locks on the Great Lakes shortly after U.S. entry into World War I, which would otherwise meet the criteria of mass murder, smells suspiciously like German sabotage and I therefore excluded it.²³³ This also excludes one of the earliest American mass murders: ten murdered by Lenape Indians at a school in 1764 Greencastle,

²³⁰ “Fiends Incarnate!” *Kansas City Sun*, Jul. 7, 1917, 1.

²³¹ “Listen, Men!” *Kansas City Sun*, Jul. 7, 1917, 1.

²³² “Fiends Incarnate!” *Kansas City Sun*, Jul. 7, 1917, 1.

²³³ *Attempt Made To Wreck Soo Locks*, *EAST OREGONIAN*, May 16, 1917, 1.

Pennsylvania,²³⁴ as well as the many thousands (at least) killed in various Indian wars (such as the hundreds killed during the Dakota War of 1862).

I have excluded *most* mass murders of Indians by Indians because most were outside the civil society of America, and the records of such crimes are thus necessarily incomplete. The Criminal Justice Research Center's data on Colonial and Revolutionary New England murders contains examples of Indian mass murders for which we have data and I have included these.²³⁵ I have included incidents here where a mass murder (by white or Indian and regardless of the victim's race) was clearly *not* a part of warfare, such as those motivated by robbery or kidnapping with the goal of ransom.

There are mass murders where the victim count includes people killed because a felony was taking place. Because of the felony-murder rule, I have included people killed lawfully during a felony as mass murder victims, such as happened in the Johnson County War.²³⁶ I have excluded incidents in which all the dead were felons.²³⁷

There are incidents which might be best categorized as mutual combat, where armed groups attacked each other with great loss of life but determining who were the victims and who were the murderers is not easy from surviving news coverage, such as the struggle between Democratic and Republican campaign workers in Clayhole Voting Precinct in 1922. The ensuing gunfight killed at least five people and wounded ten to thirteen others.²³⁸

²³⁴ Robert J. Ursano, Carol S. Fullerton, Lars Weisaeth, Beverley Raphael, ed., *TEXTBOOK OF DISASTER PSYCHIATRY* 204 (2nd ed. 2017).

²³⁵ Criminal Justice Research Center, *Homicide Among Adults in Colonial and Revolutionary New England, 1630-1797*, <https://cjrc.osu.edu/research/interdisciplinary/hvd/united-states/colonial-revolutionary-new-england>.

²³⁶ *A War in Wyoming*, [Maysville, Ky.] *Evening Bulletin*, Apr. 13, 1892, 1.

²³⁷ *Nevada Mining Boss Besieged in His Office*, *Kalispell Bee*, Jan. 09, 1903, 1.

²³⁸ Some Facts About Clayhole, [Lancaster, Ky.] *Central Record*, Jul. 20, 1922, 1.

I have excluded a small number of cases where trial found the killer not guilty of what were clearly mass murders. Example: Miss Verna Ware opened fire in the Gatesville courthouse in 1909, killing the man she accused of seducing her, two others not involved in the case and wounding a fourth.²³⁹

2. Finding Mass Murders

How do you find historical mass murders? The phrase “mass murder” is quite rare in historical documents. Using the *ngram* tool in books.google.com for books published 1600-2000 shows essentially zero matches until 1952,²⁴⁰ and many of the rare pre-1952 matches are actually abbreviations of Massachusetts such as “Mass. Murder” or “Mass., murder.”²⁴¹ The abbreviation “Mass.” causes similar problems when searching the Library of Congress’ collection of 1789-1963 newspapers for the words “mass” and “murder” within five words of each other.²⁴² An additional problem is the use of the phrase to describe governmentally sanctioned and indeed government-operated warfare.²⁴³

Searching the Library of Congress’ *Chronicling America* collection of newspapers for the words “murders”, “murdered”, “killed”, “slain”, “dead” in association with numbers found a sea

²³⁹ *Woman to Face Murder Charge, Waxahachie [Tex.] Daily Light*, Feb. 8, 1909, 1; *Four People Wounded, Palestine [Tex.] Daily Herald*, Feb. 4, 1909, 2; *Jury Verdict Not Guilty, Liberty [Tex.] Vindicator*, Feb. 11, 1910, 1.

²⁴⁰ https://books.google.com/ngrams/graph?content=%27mass+murder%27&year_start=1600&year_end=2000&corpus=17&smoothing=3&share=&direct_url=t1%3B%2C%27%20mass%20murder%20%27%3B%2Cc0, last accessed June 12, 2018.

²⁴¹ Examples: Michigan State Prison, *Biennial Report of the Board of Control and Officers of the State House of Correction and Branch Prison of State Prison in Upper Peninsula...* 22, 41, 65 (1916); R.W. Bligh, comp., *New York Herald Almanac: Financial, Commercial and Political Register 1874 87* (1874).

²⁴² <https://chroniclingamerica.loc.gov/search/pages/results/?state=&dateFilterType=yearRange&date1=1789&date2=1963&language=&ortext=&andtext=&phrasertext=&proxtext=mass+murder&proxdistance=5&rows=20&searchType=advanced>; Examples: ‘Joe is a Good Boy,’ Declares Ettor’s Parents, [Chicago, Ill.] *The Day Book*, Oct. 25, 1912; 14; *Queries Pour in on J. Frank Hickey*, [Chicago, Ill.] *The Day Book*, Dec. 4, 1912, 28; *Written Authority to Walk in Your Own Town*, [Chicago, Ill.] *The Day Book*, Feb. 5, 1912.

²⁴³ Jos. Veltman, *Do Workers Want War?* [letter to the editor] [Chicago, Ill.] *The Day Book*, Jan. 17, 1916, 23.

of matches, most of which needed to be read before discarding. In many cases, similar or identical news stories appeared in multiple newspapers. If the same facts appeared repeatedly, and there were hundreds of references to an event, I did not read every newspaper account of that event.

There are several frustrating limitations of the *Chronicling America* collection:

1. Copyright restrictions make post-1922 newspaper collections incomplete.
2. Many of these mass murders, in addition to appearing in many different newspapers, sometimes appear in only one or two newspapers, far removed from the crime, both geographically and temporally. One example is a mass murder of three in Tamworth, N.H. in 1857 which appeared only in an 1858 summary of the previous year's events, which was published in Pennsylvania.²⁴⁴ This made it difficult to gather additional data on the crime.
3. Nineteenth century accounts often used the word "murders" rather far afield from its legal meaning, or in reference to general social problems such as alcohol. This produced so many thousands of matches that I have often settled for detailed examination of the first 100 front page news stories. Newspapers in the nineteenth century also published many foreign news accounts and fiction. Limiting searches to the front pages thus reduced false positives which would have to be laboriously examined for location and fiction status. (If it didn't make the front page, it seems unlikely it could be either a specific crime, or something as shocking as a mass murder.)

Defining a mass murder by the number of dead can understate mass murders, if either police or civilian intervention interrupts the murderer. (There are some examples in my list of mass murders cut short, although not short enough, by such actions.) In addition, some of the events gathered here list crimes in which the immediate coverage includes persons wounded so seriously that the coverage describes them as "probably fatally."²⁴⁵ When considering the nature of medical and surgical care available until my lifetime, it seems a good guess that those described as "probably fatally" wounded can be properly included among the dead.

One limitation of my research project is that, as my father used to tell me, "Newspapers are the first draft of history." They may miss mass murders because of location, loss of newspapers

²⁴⁴ *Principal Events of General and Local Interest During the Year 1857, Lewiston [Penn.] Gazette*, Jan. 21, 1858, 1.

²⁴⁵ *Maniacal Unknown in Attempt to Exterminate Whole Family, Bisbee [Ariz.] Daily Review*, Apr. 6, 1922, 1.

from the historical record, and sometimes intentional editorial refusal to cover barbarous behavior (which has been demonstrated to promote copycat mass murders, even to the choice of manufacturer of the weapon used).²⁴⁶

There is a well-established pattern of copycat crimes inspired by news coverage. One example: An 1887 murder (although with only two victims and thus not in the database) was unmistakably a copycat of a recently reported mass murder. A mechanic read an article about a mass murder committed in part with Rough on Rats, a poison,²⁴⁷ to his wife:

His wife listened to the account of the... murder and then bade her husband read it. He went over it a third time and then she took the paper to the neighbors and had it read twice more. Thursday she sent her mother for yeast, and took a heavy dose of Rough on Rats and forced a dose of the poison down the throat of her babe.... The woman died in great agony and her babe expired soon after.²⁴⁸

Along with *Chronicling America*, I have made extensive use of the commercial site *Newspapers.com* and a few secondary sources.

Another valuable source was the list of “Homicide among Adults in Colonial and Revolutionary New England, 1630-1797,” compiled by Randolph Roth and Cornelia Hughes Dayton.²⁴⁹ While this is a list of *all* murders, not just mass murders, it provided an additional source of incidents.

3. Group Activity

Roth’s claim at ¶15 is that before modern firearms technology, mass murder “because of the limitations of existing technologies, were carried out by large groups of individuals acting in

²⁴⁶ Clayton E. Cramer, *Ethical Problems of Mass Murder Coverage in the Mass Media*, 9:1 *Journal of Mass Media Ethics* 26-42 (Winter, 1993-94).

²⁴⁷ “A Maniac Mother,” *St. Paul Daily Globe*, Apr. 24, 1886, 1.

²⁴⁸ “Rough on Rats,” *Austin Weekly Statesman*, Feb. 3, 1887, 7.

²⁴⁹ Randolph Roth and Cornelia Hughes Dayton, comp., *Homicide among Adults in Colonial and Revolutionary New England, 1630-1797*, Oct. 2009, <https://cjrc.osu.edu/research/interdisciplinary/hvd/united-states/colonial-revolutionary-new-england>, last accessed June 12, 2018.

concert, rather than by individuals or small groups.” The supposed distinction between modern individual mass murder and group mass murder of earlier centuries does not stand careful examination. Mass murder is *still* sometimes a group activity. Such happened at Littleton, Colo. on Apr. 20, 1999²⁵⁰ and the terrorist attacks of September 11, 2001. Other recent group mass murders include one on Oct. 31, 2019, in Orinda, Cal. A conflict between gangs led to a shooting in which the murderers shot to death five people and “several others were injured.”²⁵¹ On Dec. 31, 1986, in San Juan, P.R. three Teamsters attempted to negotiate a better labor contract with their employer by setting a fire that murdered 97 people.²⁵²

Before 1961, when “assault weapons” and LCMs were rare, there were 216 non-firearms incidents with four or more dead and a single murderer for a total of 1,353 dead or 6.26/incident. With firearms only, there were 172 incidents with 825 dead or 4.80/incident.

As this report later shows, individual mass murder is neither particularly modern nor dependent on technological advances.

4. Data Limitations

It would be very useful to be able to extract data identifying which were group mass murders and which were individual. When I started this project, this seemed an unnecessary detail and so I did not gather it. I have since gone back and coded mass murder incidents based on whether they were committed by an individual or a group. In some cases, it is impossible to

²⁵⁰ R. Barri Flowers and H. Loraine Flowers, *Murders in the United States: Crimes, Killers and Victims of the Twentieth Century* 59 (2001).

²⁵¹ Annie Sciacca, “It was a bloodbath”: Orinda Halloween shooting investigation reveals gang connections, *San Jose Mercury-News*, Nov. 17, 2019.

²⁵² 3 Teamsters Charged in San Juan Hotel Fire, *Chicago Tribune*, Feb. 4, 1988, <https://www.chicagotribune.com/news/ct-xpm-1988-02-04-8803270617-story.html>, last accessed November 24, 2018.

determine this. Often news accounts, confessions, or suicide notes clearly identify that this was the act of an individual. In some cases, there is ambiguity, such as train derailments.

When gathering this data, I only recorded if a particular weapon was used rather than counting deaths by weapon. In older news accounts, there is no breakdown of deaths by weapon. In many cases, the state of forensic medicine would make it impossible to determine if the ax to the head or the subsequent knife to the throat was the fatal injury. It would make little difference which caused a victim's death: the murderer's punishment would be the same.

A few examples of mass murders when firearms technology was not used:

Clarksburg, Va.: Nov. 10, 1805: Man murdered his wife and eight children. While found guilty, there was substantial evidence of mental illness. Weapon: ax.²⁵³

Hallowell, Me.: Jul. 9, 1806, The father murdered his wife and seven of his eight children with an axe or knife before killing himself with a knife. The cause was unclear, but the murderer mentioned poverty in a suicide note. Weapon: ax.²⁵⁴

Uniontown, Wash. Feb. 25, 1901: A woman threw her six children down a 30 foot deep well, "then jumped into the well, and, the belief is, held their heads under water until all were drowned."²⁵⁵ "She is violently insane. The woman's husband died a year ago, and she has been supported by the county and charity of neighbors."²⁵⁶ Reporter interview supports evidence of insanity: "[S]he gave him incoherent reasons for slaying her little ones.... [s]he had read of the Chinese war and the terrible atrocities committed in the Orient, and had warning that the Chinese

²⁵³ *Trial of Abel Clements*, [Edinburgh, Scotland] *Caledonian Mercury*, Aug. 25, 1806, 4.

²⁵⁴ Laurel Thatcher Ulrich, *A Midwife's Tale: The Life of Martha Ballard, Based on her Diary, 1785-1812* 291-307 (1990),; *Horrid Murder! At An Early Hour On Wednesday Morning Last, The Inhabitants Of This Town Were Alarmed With The Dreadful Information... 1* (1806).

²⁵⁵ *Drowned Her Six Children*, *Adams County News* [Ritzville, Wash.] Feb. 27, 1901, 4.

²⁵⁶ *Washington Standard* [Olympia, Wash.], Mar. 1, 1901, 3.

were coming today to burn her house and slay her children... Mr. Rustemeyer... was well acquainted with the family... He said... Mrs. Wurzer was never considered just right in her mind, and thinks she should have been restrained of her liberty long ago.” Weapon: drowning.²⁵⁷

Roth has elsewhere argued that children should not be included as victims of mass murder:

But Cramer’s claim that axes, clubs, and knives can kill or wound are effective tools for committing mass murder is misleading.... The husband who attacked his family with an axe in Clarksburg, Virginia, in 1805 killed only one adult, his wife. *His other eight victims were his children.* And the husband who attacked his family with a knife in Hallowell, Maine, in 1806 killed only one adult, his wife. *His other 7 victims were his children.* *Cramer’s evidence does not show that edged and blunt weapons are effective tools for committing mass murder.* It shows instead that infants and children are not capable of defending themselves against attacks by adults. That conclusion is consistent with the extensive literature in contemporary criminology that shows that young children are killed in the overwhelming majority of cases with weapons other than firearms, because adults can kill children so easily with physical force or everyday household objects.²⁵⁸ [emphasis added]

Belvidere, N.J. (1843)

Two (perhaps three) men murdered John Castner, his wife, one of their children, “and an old bachelor brother-in-law.” The purpose was believed to be either robbery or inheritance of the land by one of the murderers. Weapon: blunt object²⁵⁹

Before 1960, there were 807 non-firearm mass murders: 3,812 dead: an average of 4.72 dead per incident; 866 exclusively firearms mass murders, 3,740 dead: an average of 4.31 dead per incident. (For four or more dead: 393 non-firearm incidents, 2,590 dead, an average of 5.59 dead per incident. Firearms incidents: 313 with 2,110 dead; 5.74 average.) Firearms mass murders were not rare, even with “primitive” technology:

²⁵⁷ *Killed Her Children, Cottonwood [Ida.] Report*, Mar. 1, 1901, 1.

²⁵⁸ Supplemental Sur-Rebuttal Expert Report And Declaration Of Randolph Roth, *Rupp v. Bonta*, (C.D.Cal. 2023), 6-7.

²⁵⁹ *The Warren Tragedy*, AMERICAN REPUBLICAN AND BALTIMORE DAILY CLIPPER, Jan. 23, 1845. 1.

Swan River, Minn. Terr. (1860)

Early 1860 or late 1859: A very complex incident. One Chippewa warrior (“A”) murdered another Chippewa (“B”). A few days later, B’s squaw (“C”) saw A, and shot him. A’s brother (“D”) shot C. C’s brother (“E”) shot D.

Category: public

Suicide: no

Cause: revenge

Weapon: firearm²⁶⁰

Coldwater, Mich. (1865)

Jan. 30, 1865: Young man becomes engaged to a woman in Lorain Co., Ohio. This is a problem, because his wife in Coldwater, Mich., is about to give birth, so he returns home, where his wife lives with the young man’s parents. In the midst of giving birth, the young man murdered his wife. When the young man’s father and mother showed up, he shot them to death. (Other accounts identify the town as Woodstock, and that the murder of his wife and unborn child followed the murder of his parents.) His behavior after arrest, as newspaper coverage described, “suggests the charitable conjecture that the man is insane.” He confessed the crime and signed autographs for the crowd around the jail that described himself as “murderer of his wife, father and mother.” He invited his friends in Lorain County to visit him in jail “where they would find him ‘playing checkers with his nose, on the jail windows.’”

Category: family

Suicide: no

Cause: mental illness

²⁶⁰ *Indian revenge, Muscatine [Iowa] Weekly Journal*, Jan. 27, 1860, 1.

Weapon: firearm²⁶¹

Sleepy Hollow, N.Y. (1870)

Jan. 1. 1870: Farmer murdered his wife, and two of his neighbors, father and son, who appear to have visited the murderer's wife in his absence. The murderer had a reputation for being too fond of rum.

Category: public

Suicide: no

Cause: jealousy?

Weapon: firearm²⁶²

Glenville, Minn. (1889)

Feb. 15, 1889: Murderer, relative of the victims, shot to death, "Mary Chemeieck, aged six, and her sister Rose, aged eleven..." Apparently, his niece, Rose, had spurned his advances. He then murdered their mother with a shotgun and committed suicide.

Suicide: yes

Cause: unknown

Weapon: pistol, shotgun²⁶³

A mass murder that is *not* part of my database shows how "primitive" firearms technology is not a barrier to school mass murder. A former teacher showed up at a Bremen, Germany, Catholic school "armed with six loaded revolvers." He killed one teacher, two children, "three children were gravely injured and three other children were slightly wounded." The article

²⁶¹ *A Triple Murder*, [Plymouth, Ind.] *Marshall County Republican*, Feb. 16, 1865, 1.

²⁶² *A Triple Murder at Sleepy Hollow*, *Wilmington [N.C.] Journal*, Jan. 14, 1870, 1.

²⁶³ *He was a Rejected Lover*, *St. Paul Globe*, Feb. 17, 1889, 1.

described him as “demented.”²⁶⁴ Depending on whether they were they were 5-shot, 6-shot, or 9-shot revolvers (all still common today) he could have fired 30, 36, or 54 shots without reloading.

Firearms became more common weapons by the 1920s. Axes and hatchets as mass murder weapons declined as wood stoves became less common. While I have not categorized the poison mass murders as precisely as I might do if I were starting from scratch, “illuminating gas” and “Rough on Rats” (both were commonly used to wipe out spouses and children) declined as automobile exhaust poisoning rose.

This should be no surprise; mass murderers use what is available. A May 20, 1931, Mattoon, Ill. incident catches this improvisational nature well. A former employee of her late husband attempted to burn to death the woman and her two daughters with whom he had recently moved to Illinois. They escaped the burning house. He then shot to death the mother, attempted to strangle the daughters, then shot them and beat them to death with an automobile starter crank. Weapons: firearm, strangle, blunt.²⁶⁵ Similarly, May 30, 1840: The husband, murdered his mother-in-law and her five children. Cause: robbery. Weapon: strangulation; stone; axe, rifle; knife. He confessed after the first hanging failed.²⁶⁶

Even today’s gun mass murderers are not as narrowly focused as the popular imagination sees them. May 24, 2014, Isla Vista, Cal.: College student, upset about his sex life (or rather its absence) stabbed to death his three roommates, shot three women at a sorority (two of whom died), shot another student, injured two bicyclists by ramming them with his car, and shot and wounded four pedestrians.²⁶⁷

²⁶⁴ *Maniac Shot Many People, Barre [Vt.] Daily Times*, Jun. 20, 1913, 1.

²⁶⁵ *Woman Shot. Tots Choked, Brownsville Herald*, May 20, 1931, 1.

²⁶⁶ *Trial, Confession, and Execution of Robert M’Conaghy for the Murder of Mrs. Brown and her Five Children* 6-7, 9-10 (1841).

²⁶⁷ Shelby Lin Erdman and Greg Botelho, *Timeline: A killer’s rampage through a California college town*, CNN, May 27, 2014, <https://www.cnn.com/2014/05/24/us/california-rampage-timeline/>, last accessed November 27, 2018.

For the following table, some of these weapon types require explanation.

UNKNOWN means the weapon type was not identified in the article.

AIRCRAFT is for murders committed with an airplane (not all of which took place on Sep. 11, 2001). (Bombing of planes is in the EXPLOSIVE weapon type.)

TRAIN involves intentional derailment of trains to cause loss of life. The motivation for most of these crimes is uncertain. One was insurance fraud; authorities alleged “that the men entered into the plot to get rid of their wives and at the same time to collect damages from the railroad company.” One of the murderers collected \$500 from the railroad for injuries to his wife.²⁶⁸ Another, on Dec. 27, 1934: Police charged three men with the intentional derailment of a train, in the hopes that one of the train crew would lose his job, so that one of the three would get that job. The crash killed three employees and injured 16 passengers.²⁶⁹

Incident count by weapon type for mass murders before 1960 where only one weapon type was used:

method	count_incident	total_dead
arson	72	466
ax	93	419
blunt	91	363
drown	24	82
explosive	34	278
firearm_unknown	408	2063
hang	40	149
hatchet	19	63
knife	49	178
machine_gun	7	37
other	13	122
othersharp	28	106

²⁶⁸ *Plot to Kill Their Wives*, [Maysville, Ky.] *Evening Bulletin*, Mar. 26, 1896, 1.

²⁶⁹ *Trio Held In Wreck Accused Of Murder*, [Washington, D.C.] *Evening Star*, Mar. 10, 1935, 1.

method	count_incident	total_dead
personal	2	9
pistol	201	693
poison	67	260
rifle	119	451
shotgun	84	307
strangle	16	54
train	15	76

H. Killing People Without Modern Firearms Technology

How do you kill lots of people without modern firearms technology? Before 1960, there are four incidents with more than 50 dead. Colfax, Louisiana (1873) where the KKK murdered 150 black civil rights activists using firearms; Mountain Meadows, Utah (1857) where Mormons with firearms of type unknown murdered 140 settlers moving west; Tulsa, Okla. (1921), at least 89 murdered by a mob, with a variety of weapons, Calumet, Mich. (1913) where one person provoked a panic that killed 74 people, mostly trampled to death.

By comparison, my database, while incomplete after 1960, has six mass murders with more than 50 dead after 1960: San Juan, P.R. (1986), 97, dead by arson committed by three men; New York City (1990), 87 dead by arson by one person; Oklahoma City (1995), 168, dead by explosive committed by two (only one was given a capital sentence); New York City (2001), 3047, dead by aircraft, and Arlington, Va. (2001), 184, dead by aircraft with 19 murderers from both events; Las Vegas (2017), 58, dead by one rifleman.

1. Explosives

One popular method was explosives.

Sells, Ark. (1900)

Oct. 15, 1900: “[F]ather, mother, and four young children blown to atoms” by dynamite explosion. “It is believed that a dispute over a homestead claim prompted the outrage.”

Category: family non-resident

Suicide: no

Cause: greed

Weapon: explosives²⁷⁰

Cripple Creek, Colo. (1904)

Jun. 5, 1904: Someone set off a bomb under a train station platform where non-union men were waiting for a train during a strike. Twelve died “and a score or more injured...” Subsequently, “Forty shots were fired in a crowd in the street. Two men were killed and at least six persons wounded.” One of the dead “by blow from revolver.” Then the National Guard troops showed up and attempted to restore order.

Category: public

Suicide: no

Cause: labor

Weapon: explosives, firearm, blunt²⁷¹

Mullins, W.Va. (1909)

5/16/1909: Organized crime group The Black Hand used dynamite to blow up an Italian boarding house. One of the victims broke faith with the Black Hand. The explosion killed four and injured three.

Category: residential

²⁷⁰ *Whole Family Murdered*, [St. Genevieve, Mo.] *Fair Play*, Oct. 20. 1900, 1.

²⁷¹ *Terrorism and Death Dominate Colorado*, *Saint Paul Globe*, Jun. 7, 1904, 1.

Suicide: no

Cause: gang

Weapon: explosives²⁷²

Mudlow, W.Va. (1912)

7/26/1912: Striking miners dynamited a machine gun operated by agents of the Baldwin detective agency, killing three miners and seven detectives.

Category: public

Suicide: no

Cause: labor

Weapon: explosives²⁷³

Superior, Penn. (1914)

11/15/1914: Someone blew up the Kanaza general store, which was also the Kanaza residence, with two separate dynamite bombs, killing Kanaza's three children and two other men. Five others suffered injuries. Mr. Kanaza believed the motive was revenge for a lawsuit.

Category: family

Suicide: no

Cause: revenge

Weapon: explosives²⁷⁴

San Francisco, Cal. (1916)

Feb. 22, 1916: Someone set off a dynamite bomb during the "Preparedness Day Parade," in preparation for World War I. While the identity of the murderers is uncertain (California Governor Culbert Olson many years later pardoned those originally convicted as evidence of

²⁷² *Black Hand Kills Four By Dynamite, Bluefield [W.Va.] Evening Leader*, May 17, 1909, 1.

²⁷³ *Seven Detectives and Three Miners Dead, Seattle Star*, Jul. 26, 1912, 1.

²⁷⁴ *Dynamite Kills Five In Spite Act, New-York Tribune*, Nov. 16, 1914, 1.

perjury at the trial accumulated), circumstances suggests that it was the work of anarchists, hostile to U.S. involvement in the war.

Category: public

Suicide: no

Cause: terrorism

Weapon: dynamite²⁷⁵

New York, N.Y. (1920)

09/16/1920: Anarchists set off a bomb in Wall Street, killing 31 and injuring 125 others.

Category: public

Suicide: No

Cause: terrorism

Weapon: TNT²⁷⁶

Germantown, Md. (1920)

11/18/1920: Two neighbors had a longstanding feud. On Election Day, one shot the other in the neck. The farmer shot in the neck took revenge with 50 pounds of dynamite, killing his neighbor, the housekeeper and her two children.

Category: family non-resident

Suicide: no

Cause: revenge

Weapon: explosives²⁷⁷

²⁷⁵ *Dynamite Trial Opens Today in 'Frisco; 10 Were Killed by Bomb, Bemidji* [Minn.] *Daily Pioneer*, Jan. 3, 1917, 1; *Preparedness Day Bombing*, https://en.wikipedia.org/wiki/Preparedness_Day_Bombing#Later_investigations.

²⁷⁶ *Bomb Batters Wall Street; 31 Slain, 125 Hurt, The Sun and the New York Herald*, Sep. 17, 1920, 1.

²⁷⁷ *Bomb Wrecks Farmers Home Killing Three*, [Salem, Ore.] *Capital Journal*, Nov. 19, 1920, 1.

Pittsburgh, Penn. (1925)

May 6, 1925: Two bombs destroyed three buildings, killing eight people immediately, and fatally injuring two others. One of the buildings housed a grocer who had been the victim of extortion threats by a Black Hand society.

Category: residential

Suicide: no

Cause: extortion

Weapon: explosive²⁷⁸

Bath, Michigan (1927)

May 18, 1927: Treasurer of the local school board was angered by his property tax increase to pay for a new school building that he had opposed. He placed a dynamite bomb in the basement of the school, by which method he murdered 37 children and six adults as well as seriously injuring 44 others. Only a wiring mistake prevented other charges from taking down the rest of the building which endangered 150 more students. The murderer had already beaten his wife to death at their home before blowing up their house. He blew himself up in his car in front of the school 30 minutes after the school explosion.

Category: public

Suicide: yes

Cause: revenge

Weapon: explosive, blunt object²⁷⁹

²⁷⁸ *Eight Are Killed In Blasted Homes*, [Washington, D.C.] *Evening Star*, May 06, 1925, 1.

²⁷⁹ *Fate Saves Scores in Blast When Maniac's Plot Kills 43*, [Washington, D.C.] *Evening Star*, May 19, 1927, 1.

New York, N.Y. (1927)

Oct. 8, 1927: Someone set off a dynamite bomb demolishing a four-story apartment building, killing five and injuring eleven. Why did police assume a dynamite bomb? “Finding of 20-Pound Unexploded Bomb Leads Police to Suspect Infernal Machine.”

Category: public

Suicide: no

Cause: unknown

Weapon: explosive²⁸⁰

Newton, Mass. (1928)

01/31/1928: Someone used dynamite to destroy a building containing “extensive liquor making apparatus in the basement.” Six people died.

Category: private

Suicide: no

Cause: gang?

Weapon: explosive²⁸¹

Seat Pleasant, Md. (1930)

01/01/1930: A belated and misdelivered Christmas gift was dynamite and exploded as the family unwrapped it. The explosion killed an expectant mother and two siblings, her mother, and injured two other siblings. The family was new to the community with no known enemies.

Category: family non-resident

Suicide: no

Cause: unknown

²⁸⁰ *Four Killed In Bomb Explosion In Tenement District Of New York*, [Douglas, Ariz.] *Douglas Daily Dispatch*, Oct. 09, 1927, 1; *Five Killed, 11 Hurt As Explosion Razes 35th St. Tenement*, *New York Times*, Oct. 9, 1927, 1.

²⁸¹ *Mystery Explosion Is Fatal To Six -Bodies Taken From Debris Of Two-Story*, *Brownsville Herald*, Jan. 31, 1928, 1.

Weapon: explosives²⁸²

Chesterton, Ind. (1933)

10/10/1933: A bomb explosion in the cargo compartment aboard a United Airlines flight ripped the plane apart, killing seven people. Motive remained uncertain.

Category: public

Suicide: no

Cause: unknown

Weapon: explosive²⁸³

Denver, Colo. (1955)

11/1/1955: The 23-year-old son of passenger Daisy E. King eventually confessed that he placed a 25-stick dynamite bomb in her luggage, blowing up her airliner, killing 44 people. The murderer had taken out life insurance policies on his mother and was expecting to receive a “substantial inheritance” upon her death.

Category: public

Suicide: no

Cause: greed

Weapon: explosives²⁸⁴

Since 1960, this technology, despite attempts to regulate explosives, remain a big dead per incident killer. Using fertilizer, a murderer on Apr. 20, 1995, set off a truck bomb in front of the Oklahoma City Federal Building killing 168 people and injuring hundreds more.

²⁸² *Gift Package Bomb Kills Woman; 5 Hurt*, [Washington, D.C.] *Evening Star*, Jan. 01, 1930, 1; *Bomb Survivors Tell Of Explosion*, [Washington, D.C.] *Evening Star*, Jan. 12, 1930, 1.

²⁸³ *Ill-Fated Plane Wrecked By Bomb US Prober Says*, *Indianapolis Times*, Oct. 14, 1933, 1.

²⁸⁴ *Flowers And Flowers, Murders In The United States*, op cit. 30-1; FBI, *Jack Gilbert Graham*, <https://www.fbi.gov/history/famous-cases/jack-gilbert-graham>, last accessed October 5, 2022.

Category: public

Suicide: no

Cause: terrorism

Weapon: explosives²⁸⁵

2. Arson

Arson is also a common and very low technology method to cause lots of suffering.

New York, N.Y. (1903)

11/1/1903: Police and coroner believed that a tenement building fire that killed 26 people was “of incendiary origin.”

Category: residential

Suicide: no

Cause: unknown

Weapon: arson²⁸⁶

Boston, Mass. (1913)

Dec. 3, 1913: A lodging house refused a man a room “for want of 15 cents.” He lit the structure on fire, killing 27 lodgers in a dangerously renovated structure.

Category: residential

Suicide: no

Cause: revenge

Weapon: arson²⁸⁷

²⁸⁵ Flowers and Flowers, *Murders in the United States*, 56-7.

²⁸⁶ *Tenement House Fire*, [Maysville, Ky.] *Evening Bulletin*, Nov. 2, 1903, 4.

²⁸⁷ *Burns Lodging House When Refused Room; 27 Homeless Men Died*, [New York, N.Y.] *Evening World*, Dec. 3, 1913, 1.

San Francisco, Cal. (1944)

03/27/1944: Over a period of four hours, five San Francisco skid row hotels “burst into flames” following a previous weekend of 11 fires in Oakland hotels. The New Amsterdam Hotel fire killed 22 and injured 27. “Authorities noted an odor of kerosene or gasoline.” One tenant, 33, showed injuries from the fire and was held in the “hospital psychopathic ward.”

Category: public

Suicide: no

Cause: mental illness

Weapon: arson²⁸⁸

Tulsa, Okla. (1921)

05/01/1921: The police arrested a young black man for what later appears to have been an accidental touching of a white female elevator operator. Rumors spread that police charged him with sexual assault. A lynch mob arrived at the county jail. The sheriff and deputies prevented seizure of the young man. A group of armed black men offered to help the sheriff defend the jail. This display of arms by black men inflamed white public sentiment leading to the destruction of Greenwood, the black section of Tulsa. More than one thousand homes were burned and *at least* 89 dead. Newspapers and public officials removed news accounts and official records about the riot from files. The Tulsa Race Riot Commission in 2001 “concluded that between 100 and 300 people were killed and more than 8,000 people made homeless over those 18 hours in 1921,” with many bodies buried in unmarked mass graves.

Category: public

Suicide: no

²⁸⁸ 22 Killed In Hotel Fire In San Francisco, [Santa Cruz, Cal.] *Santa Cruz Sentinel*, Mar. 29, 1944, 1.

Cause: racism

Weapon: firearms, arson, unknown?²⁸⁹

Chicago, Ill. (1958)

Dec. 1, 1958: Our Lady of the Angels school burned, killing 95.²⁹⁰ Several years later, a 13-year-old confessed while on a lie detector that he had started the fire: “because he hated school, rebelled at the authority of teachers, liked to hear the sound of fire sirens and to watch fire engines race along the street.”²⁹¹

After 1960, there have been several arson mass murders with equal or larger death counts, and this remains a common method of mass murder in other nations. In Australia, an arsonist burned the Childers, Queensland’s Palace Backpackers Hostel in 2000, killing 15.²⁹² The 2011 Quakers Hill Nursing Home fire killed eleven, set by a nurse after police questioned him about drug abuse.²⁹³ Japan had several arson mass murders in late 2021, killing 24, 17, and 33 in separate incidents.²⁹⁴ These required no advanced firearms technology or even firearms. The previously mentioned San Juan, P.R. arson mass murder killed 97.²⁹⁵ The March 25, 1990, Happyland Social Club fire killed 87 people, leaving three survivors. Angry at his girlfriend, the murderer used \$1 of gasoline and a match to set fire to her place of employment.²⁹⁶

²⁸⁹ *Tulsa Race Riots*, <https://www.history.com/topics/roaring-twenties/tulsa-race-massacre>, last accessed July 5, 2021.

²⁹⁰ Our Lady of the Angels School fire, https://en.wikipedia.org/wiki/Our_Lady_of_the_Angels_School_fire

²⁹¹ *Boy Admits Fire Fatal To 95*, *Miami News*, January 16, 1962, 1.

²⁹² *A Decade On, Childers Remembers Hostel Fire Tragedy*, *Brisbane [Australia] Times*, Jun. 23, 2010.

²⁹³ Candace Sutton, Man Who Murdered 11 People in Nursing Home Fire 'Frothed At The Mouth' From Drugs And 'Put Nails In Tyres And Poured Paint' Over Boss's Car, Inquest Hears, [U.K.] *Daily Mail*, Sep. 8, 2014.

²⁹⁴ Makiko Inoue, Motoko Rich and Hikari Hida, 24 Dead in Suspected Arson at Office Building in Japan, *N.Y. Times*, Dec. 16, 2021, <https://www.nytimes.com/2021/12/16/world/asia/japan-fire-osaka.html>, last accessed November 21, 2022.

²⁹⁵ 3 Teamsters Charged in San Juan Hotel Fire, *Chicago Tribune*, Feb. 4, 1988, <https://www.chicagotribune.com/news/ct-xpm-1988-02-04-8803270617-story.html>, last accessed November 24, 2018.

²⁹⁶ Ralph Blumenthal, *Fire in the Bronx; 87 Die in Blaze at Illegal Club; Police Arrest Ejected Patron; Worst New York Fire Since 1911*, *New York Times*, Mar. 26, 1990.

New Orleans, La. (1973)

Jun. 24, 1973: The murderer took revenge for being expelled from the UpStairs Lounge, a gay bar. He walked down the street and bought a bottle of cigarette lighter fluid, killing 33 people.²⁹⁷

Chicago, Ill. (1976)

01/30/1976: An employee of Wincrest Nursing Home with a mental illness problem (pyromania) started a fire in a clothing wardrobe, which killed 22 residents. The employee was charged with arson.²⁹⁸

3. Brutal Misuse of Tools

Mass murders do not even require purpose-built tools.

Villisca, IA. (1912)

Sep. 9, 1912: It appears that a business competitor and member of the Iowa State Senate murdered Joseph Moore, his wife Sarah, their four children and two visiting children “with an ax.” An “itinerant minister” was charged. The Iowa Attorney-General “sought to commit” the minister “to an insane asylum, a step that would bar the prosecution of any other person suspected of the crime.”

Relatives of the victims claimed that the Attorney-General blamed the wrong person; in response, the Iowa legislature passed a law prohibiting public discussion of the crime. This led to an “injunction against J.N. Wilkerson, a detective, whose four years’ investigation of the murders cast suspicion on a prominent state senator.” The public meeting by Villisca residents took place in Omaha, Neb., instead.

²⁹⁷ Elisabeth Dias with Jim Down, *The Horror Upstairs*, *Time*, Jul. 1, 2013.

²⁹⁸ National Fire Protection Association, *Preliminary Report NFPA Fire Analysis Department Wincrest Nursing Home*, 1, 4, <https://oac.cdlib.org/view?docId=hb9v19p0sd&doc.view=frames&chunk.id=div00008&toc.id=0>, last accessed November 27, 2022; *Woman Indicted in Chicago Blaze*, *New York Times*, Feb. 4, 1976.

Category: greed

Suicide: no.

Cause: greed

Weapon: ax²⁹⁹

4. Panic

While a less common mass murder weapon, panic can lead to trampling murders.

Calumet, Mich. (1913)

Dec. 24, 1913: A man shouted, “Fire! Fire! Everybody rush!” in the Italian Hall where striking miners and their families were meeting for a Christmas party. (There was no fire.) As the crowd attempted to exit the hall through an inadequate exit, seventy-four people (mostly children) were trampled to death.³⁰⁰ One account ascribed the false claim to “a drunken” man,³⁰¹ but considering the murder of strikebreakers in Calumet a few weeks before in the middle of a fierce labor dispute,³⁰² this seems unlikely as the cause.

Category: public

Suicide: no

Cause: labor

Weapon: mouth³⁰³

I. Causes

The focus of the State on the *method* of mass murder might be better spent on solving the problem by solving underlying causes.

²⁹⁹ *Villisca Ax Murders to Be Discussed in Mass Meeting, Omaha Daily Bee*, Jul. 6, 1917, 1.

³⁰⁰ *Ore Miner Charged Eight-Seven Cents for Month’s Labor, Omaha Daily Bee*, Feb. 12, 1914, 1.

³⁰¹ *Day of Joy is One of Sorrow*, [Valley City, N.D.] *Weekly Times-Record*, January 1, 1914, 6.

³⁰² *Strike Breakers Taken to Mines at Point of Pistols, Omaha Daily Bee*, Jan. 11, 1914, 1 (based on U.S. Dept. of Labor report).

³⁰³ *Ore Miner Charged Eight-Seven Cents for Month’s Labor, Omaha Daily Bee*, Feb. 12, 1914, 1.

The following table shows the proximate cause of all mass murders in my database before 1960. (After 1960, the data is not yet complete.) The following bullet points describe the abbreviations that are used in the table:

- **Rob** is a mass murder performed as part of a robbery or to eliminate witnesses to the robbery.
- **MI** (Severe mental illness, primarily psychoses and other illnesses that cut off the sufferer from reality) includes all crimes where either contemporary accounts describe the murderer as insane, or where the nature of the crime makes other explanations implausible (this is necessarily a judgment call, on which my experience with mentally ill relatives and friends informs my opinion).

The legal definition of mental illness is much narrower than the medical definition. Through most of U.S. history, the M'Naughton Rule (sometimes spelled M'Naughten) defined legal insanity as: "at the time of committing the act, the accused was laboring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing or, if he did know it, that he did not know what he was doing was wrong."³⁰⁴ A person who did not know he was doing wrong, was insane.

Persons who are mentally ill sometimes know that they are doing wrong and try to escape arrest and conviction (perhaps because the "aliens," or the CIA or KGB "agents" that they have just murdered are still after them). Such persons are legally sane, while in any conventional sense, they are as "mad as hatters."

- **MI?** are persons whose sanity seems questionable but for which contemporary accounts are less than persuasive.
- **PPD** (Postpartum Depression): Tragically, many mentally ill or possibly mentally ill incidents (not included in the MI or MI? category) are mass murders by mothers with recently born babies. In cases where the murders are by recent mothers and where news accounts provide no other explanation I have categorized these as **postpartum depression**. Some news accounts identified the mother as "temporarily insane" with no previous history of mental illness. In a few cases the news accounts report on previous mental illness hospitalizations associated with previous births.
- Many cases I have listed as "**PPD?**" because this is a plausible explanation when no other seems more likely.
- **Resist** is a criminal resisting arrest.
- **Unknown** describes a very large number of crimes where either the motivation is unclear or the newspaper coverage is silent; this also includes some mass murders where the inability to identify the murderer makes cause impossible to determine.

³⁰⁴ *The insanity defense and Diminished Capacity*, <https://www.law.cornell.edu/background/insane/insanity.html>

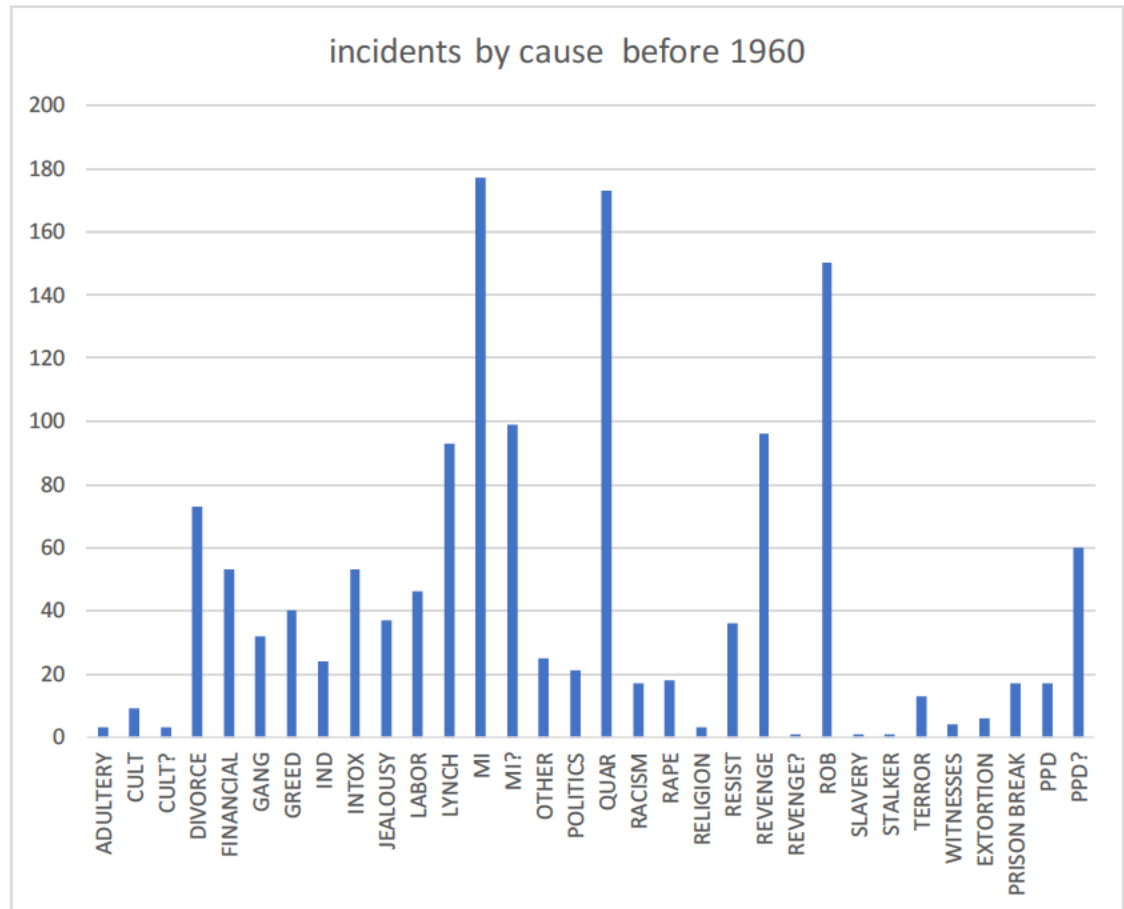
- **Religion** is mass murders committed as part of religious persecution. (And yes, in America!)
- **Racism** is its frequent cousin. In some cases, these include revenge or retribution against Indians for crimes not, or at least not clearly committed by the victims.
- **Politics** are murders committed to advance a political cause.
- **Terror** are mass murders committed to cause mass fear for purposes of political change outside elections. Example: 9/11.
- **Revenge** are mass murders committed to take revenge for real or perceived injuries by the murderer, his family, or acquaintances.
- **Ind** are crimes between Indians and settlers that are not official acts of war, but that might have been seen that way by the murderers. I have classified all attacks against peaceful travelers, settlers, and Indians in this cause. (In some cases, the killers openly admitted that the victims were “peaceful,” but were supplying guns to less friendly tribes.)³⁰⁵
- **Financial** is a strange subclass of family murders committed, usually by a parent concerned their family is about to become impoverished, who then “protect” them from that suffering by mass murder. In some cases, this seems to be a form of mental illness: at least one example involved a mass murderer who was in no danger of impoverishment.
- **Labor** are crimes committed during labor disputes, sometimes against strikebreakers, sometimes against labor unionists.
- **Quarrel** are incidents that start out as some relatively minor dispute before escalating into disproportionate response.
- **Cult** refers to mass murders committed by oddball religious cults; I was surprised how widespread these were in the early 20th century (the Church of the Sacrifice slaughtered entire families, often with the family’s own ax).
- **Rape** are mass murders committed to eliminate witnesses to a rape.
- **Greed** are mass murders carried out to obtain wealth other than by robbery, often by inheritance from the deceased.
- **Divorce** is an alternative form of **Revenge**; divorce has been or is in the process and someone is seeking retribution. This includes separated spouses attempting reconciliation.
- **Adultery**: a variant of **Revenge**.
- **Jealousy**: should be obvious.
- **Intoxication** are crimes attributed to alcohol or drug-induced stupidity. The strong overlap between **mental illness** and **substance abuse** (one often causing the other) makes some of these hard to distinguish, especially 150 years after the crime.

³⁰⁵ *From California and Oregon, [Washington, D.C.] Evening Star, Mar. 21, 1860, 2.*

- **Bullying** is a recent category, and one that I suspect reflects some deeper mental illness; I was bullied as a child, had access to low-grade explosives (nerds have peculiar hobbies), and never even *thought* of mass murder (or even low-intensity revenge).
- **Stalker**: someone did not get their attentions rewarded as they saw fit.
- **Witnesses**: Eliminating witnesses to some crime other than rape or robbery.

Lookup to ca ▼	incidents ▼	dead ▼
ADULTERY	3	11
CULT	9	41
CULT?	2	9
DIVORCE	75	271
FINANCIAL	55	221
GANG	32	119
GREED	38	254
IND	24	191
INTOX	54	203
JEALOUSY	35	121
LABOR	46	465
LYNCH	92	350
MI	182	756
MI?	102	457
OTHER	27	120
POLITICS	21	143
QUAR	175	624
RACISM	18	270
RAPE	19	66
RELIGION	3	175
RESIST	35	154
REVENGE	95	428
REVENGE?	1	3
ROB	152	643
SLAVERY	1	4
STALKER	1	3
TERROR	14	284
UNKNOWN	435	1754
WITNESSES	4	28
EXTORTION	6	43
PRISON BREAK	17	79
PPD	17	71
PPD?	61	205

- Plotting the causes without UNKNOWN shows the high frequency causes:

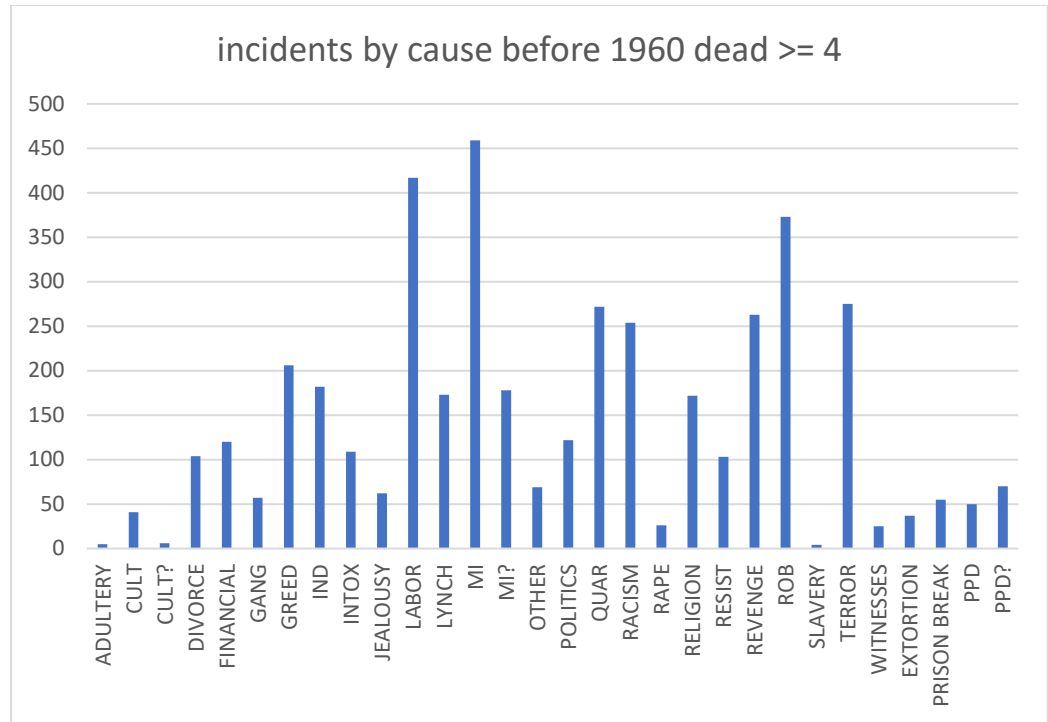


Incidents by cause before 1960 where dead are four or more:

incidents by cause before 1960 dead >= 4		
Lookup to cause	incidents	dead
ADULTERY	1	5
CULT	9	41
CULT?	1	6
DIVORCE	21	104
FINANCIAL	22	120
GANG	11	57
GREED	21	206
IND	21	182
INTOX	23	109
JEALOUSY	14	62

incidents by cause before 1960 dead >= 4		
Lookup to cause	incidents	dead
LABOR	30	417
LYNCH	33	173
MI	85	459
MI?	38	178
OTHER	10	69
POLITICS	14	122
QUAR	56	272
RACISM	13	254
RAPE	6	26
RELIGION	2	172
RESIST	17	103
REVENGE	37	263
ROB	70	373
SLAVERY	1	4
TERROR	11	275
UNKNOWN	182	1007
WITNESSES	3	25
EXTORTION	4	37
PRISON BREAK	9	55
PPD	10	50
PPD?	16	70

Before 1960 at least four dead, excluding UNKNOWN:



It should surprise no one that mental illness and likely mental illness are a high frequency category. While most mentally ill people are primarily a hazard to themselves, severely mentally ill people are overrepresented in murder and other violent crimes.³⁰⁶ Deinstitutionalization of the mentally ill starting with New York in 1964 and California in 1969 played significant roles in increased homelessness and violent crime rates.³⁰⁷

Professor Bernard E. Harcourt points out that the rise in murder rates in the 1960s, and their decline in the 1990s correlated with the change in the percentage of the population that was institutionalized: those who were confined to either a mental hospital or prison. According to Harcourt, sociologists examining the expansion of imprisonment in the 1990s, the so-called “incarceration revolution,” missed the even more important component of institutionalization:

³⁰⁶ See Clayton E. Cramer, *Mental Illness and the Second Amendment*, 46 CONNECTICUT LAW REVIEW 1301-6 (May 2014):(collecting studies).

³⁰⁷ See Clayton E. Cramer, *My Brother Ron: A Personal and Social History of the Deinstitutionalization of the Mentally Ill* (2012) and Jean Isaac Rael and Virginia C. Armat, *Madness In The Streets: How Psychiatry And The Law Abandoned The Mentally Ill* (1990) for how beautiful abstract theories and fanaticism created the tragic urban landscape of modern America.

mental hospitals and then prisons, as mentally ill persons became guests of the state for serious crimes. When adding mental hospital inmates to prisoners, Harcourt found an astonishingly strong negative correlation between the institutionalization rate, and the murder rate: -0.78. Harcourt found that even when adjusting for changes in unemployment and the changing fraction of the population that was at their peak violent crime ages, the negative correlation remained strong, and did a better job of predicting both the 1960s rise and the 1990s decline in murder rates than other models.³⁰⁸

Steven P. Segal of the University of California, Berkeley studied state-to-state variations in murder rates and mental health care, controlling for socioeconomic, demographic, and geographic data. He concluded that “[l]ess access to psychiatric inpatient-beds and more poorly rated mental health systems were associated with increases in the homicide rates of 1.08 and 0.26 per 100,000, respectively.” (Since the national average homicide rate was 7.4 per 100,000 people for 2020,³⁰⁹ more access to beds is clearly quite important in reducing homicide rates; “poorly rated mental health systems” matter, but not as dramatically.)

Segal observed an even greater difference from the variation in involuntary civil commitment (ICC) laws. “Broader ICC-criteria were associated with 1.42 less homicides per 100,000” or bit more than one-fourth of the national homicide rate. In short, states where involuntary commitment of the mentally ill was relatively easy had significantly fewer murders than states where it was very hard.³¹⁰

³⁰⁸ Bernard E. Harcourt, *From the Asylum to the Prison: Rethinking the Incarceration Revolution*, 84 TEXAS LAW REVIEW 1766-75 (2006).

³⁰⁹ Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Mortality 1999-2020 on CDC WONDER Online Database, released in 2021. Data are from the Multiple Cause of Death Files, 1999-2020, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/ucd-icd10.html> on Nov 3, 2022 12:51:23 PM

³¹⁰ Steven P. Segal, *Civil Commitment Law, Mental Health Services, and US Homicide Rates*, *Social Psychiatry and Psychiatric Epidemiology*, November 10, 2011, <https://web.archive.org/web/20170323153646/http://kendas-law.org/national-studies/commitmenthomiciderates.pdf>, last accessed August 19, 2022.

A 2000 *New York Times* examination of mass murderers concluded:

The Times' study found that many of the rampage killers... suffered from severe psychosis, were known by people in their circles as being noticeably ill and needing help, and received insufficient or inconsistent treatment from a mental health system that seemed incapable of helping these especially intractable patients.

Only a small percentage of mentally ill people are violent, and many advocates bristle at any link between mental illness and violence out of concern that it will further stigmatize an already mistreated population.

However, the Times investigation of this particular style of violence -- public rampage killings -- turned up an extremely high association between violence and mental illness. Forty-seven of the killers had a history of mental health problems before they killed; 20 had been hospitalized for psychiatric problems; 42 had been seen by mental health professionals.³¹¹

A few representative cases from the period before 1960:

New Haven, Conn. (1930)

Jun. 21, 1930: The father had been involuntarily committed to a mental hospital. He escaped, threw his four children and wife from a 400-foot cliff, then jumped.

Category: family

Suicide: yes

Cause: mental illness

Weapon: other³¹²

New York, N.Y. (1953)

Apr. 01, 1953: A college professor, 52, under psychiatric care, strangled his wife and their two children, then stabbed himself to death.

Category: family

³¹¹ Laurie Goodstein and William Glaberson, *The Well-Marked Roads to Homicidal Rage*, *New York Times*, Apr. 10, 2000.

³¹² *Maniac Veteran Kills His Family*, *New Britain Herald*, Jun. 23, 1930, 9.

Suicide: yes

Cause: mental illness

Weapon: strangled³¹³

Eleva, Wisc. (1909)

Feb. 2. 1909: The father stabbed to death his four children, then “stabbed himself and then jumped from the barn loft with a rope around his neck. At the same time he hurled a fire brand into the stable, firing the barn.”

Category: family

Suicide: Yes.

Cause: “[Father] was recently released from an insane asylum.”

Weapon: knife³¹⁴

J. Summary

Mass murder, by groups, or by individuals is not new. It has often involved non-firearms and continues to do so today. The focus on firearms ignores the underlying causes, often severe mental illness not recognized or treated.

As noted above, untreated mental illness started this current campaign and many of the subsequent mass murders have had at their root mental illness which was unseen, ignored, or where the laws or policies made involuntary commitment impossible.³¹⁵ Fix the root problem or mass

³¹³ *Triple Murder, Suicide Apparent*, [Parsons, Kansas] *Parsons Sun*, Apr. 04, 1953, 7.

³¹⁴ *Murders Whole Family and Then Kills Self*, [Pendleton, Ore.] *East Oregonian*, Feb. 22, 1909, 8.

³¹⁵ See Clayton E. Cramer, *Mental Illness and the Second Amendment*, 46 CONN. L.R. 4:1301 (2014) for an examination of this problem and Clayton E. Cramer, *MY BROTHER RON: A PERSONAL AND SOCIAL HISTORY OF THE DEINSTITUTIONALIZATION OF THE MENTALLY ILL* (2012) for how we got here.

murderers will use the weapons they have historically used in the United States: arson,³¹⁶ vehicles,³¹⁷ explosives,³¹⁸ hammers,³¹⁹ axes,³²⁰ poison,³²¹ aircraft,³²² and train derailments.³²³ Or they might use the weapons mass murderers use in other nations: arson;³²⁴ vehicles;³²⁵ explosives,³²⁶ sharp objects,³²⁷ hammers;³²⁸ poison gas,³²⁹ and of course, in spite of much stricter firearms laws, guns.³³⁰

³¹⁶ 3 Teamsters Charged in San Juan Hotel Fire,” *Chicago Tribune*, Feb. 4, 1988, <https://www.chicagotribune.com/news/ct-xpm-1988-02-04-8803270617-story.html>, last accessed November 24, 2018 (97 dead); Ralph Blumenthal, *Fire in the Bronx; 87 Die in Blaze at Illegal Club; Police Arrest Ejected Patron; Worst New York Fire Since 1911*, *NEW YORK TIMES*, Mar. 26, 1990 (87 dead); Phil Luciano, *9-year-old arraigned on murder charges in deadly Goodfield arson fire*, *PEORIA JOURNAL STAR*, Oct. 21, 2019.

³¹⁷ Lauren del Valle, Ray Sanchez and Eric Levenson, *Terror suspect accused of killing 8 people on NYC bike path still believes in ISIS, defense attorney says*, *CNN*, January 9, 2023.

³¹⁸ FBI, *Oklahoma City Bombing*, <https://www.fbi.gov/history/famous-cases/oklahoma-city-bombing>, last accessed January 31, 2023 (168 dead); *Fate Saves Scores in Blast When Maniac’s Plot Kills 43*, [Washington, D.C.] *EVENING STAR*, May 19, 1927, 1; *Los Angeles, on Election Eve, in Ferment Over Confession of the McNamaras*, [Chicago, Ill.] *THE DAY BOOK*, Dec. 2, 1911, 1 (21 dead); *Seven Detectives and Three Miners Dead*, *SEATTLE STAR*, Jul. 26, 1912, 1 (10 dead).

³¹⁹ *A Family Slain*, *KANSAS CITY JOURNAL*, Mar. 4, 1899, 1 (5 dead).

³²⁰ *Five Battered With An Axe*, [Keokuk, Ia.] *DAILY GATE CITY*, Oct. 17, 1911, 1 (5 dead); *Mystery of 30 Axe-Murders is Believed Near Its Solution*, *ALBUQUERQUE MORNING JOURNAL*, Mar. 22, 1915, 1 (police believed one man murdered 29 people in five families over three years).

³²¹ *A Modern Borgia*, *NASHVILLE UNION AND AMERICAN*, Oct. 27, 1868, 1 (the maid murdered a family of seven).

³²² FBI, *CRIME IN THE UNITED STATES: 2001*, Section 5, <https://ucr.fbi.gov/crime-in-the-u.s/2001/01sec5.pdf> (3047 dead); *Id.*, (184 dead); *Id.*, (40 dead); Judith Cummings, *Kin of Suspect Defiant and Contrite*, *New York Times*, Dec. 11, 1987 (44 dead).

³²³ *Crack Flyer Jumps Track*, [De Kalb, Illinois] *DAILY CHRONICLE*, Mar. 17, 1941, 1 (5 dead).

³²⁴ *A Decade On, Childers Remembers Hostel Fire Tragedy*, *BRISBANE [Australia] TIMES*, Jun. 23, 2010 (15 dead); Candace Sutton, *Man Who Murdered 11 People in Nursing Home Fire 'Frothed At The Mouth' From Drugs And 'Put Nails In Tyres And Poured Paint' Over Boss's Car, Inquest Hears*, [U.K.] *DAILY MAIL*, Sep. 8, 2014, (11 dead).

³²⁵ *Toronto is the most recent of many deliberate attacks involving vehicles*, *USA TODAY*, Apr. 23, 2018 (10 dead in Toronto attack, 14 dead in Barcelona, Spain, 8 on London Bridge, 12 in Berlin, Germany) (10 dead); *Nice attack: Trial for Bastille Day massacre which killed 86 begins*, *BBC*, Sep. 5, 2022 (86 dead); *Australian who rammed and killed six pedestrians jailed for life*, *REUTERS*, Feb. 21, 2019 (6 dead); Alex Johnson, *A Short History of Vehicles Being Used as Deadly Weapons*, *NBC News*, Jul. 15, 2016 (8 dead).

³²⁶ Andrew Higgins and Kimiko De Freytas-Tamura, *In Brussels Bombing Plot, a Trail of Dots Not Connected*, *NEW YORK TIMES*, March 26, 2016 (33 dead); Sylvia Hui, *Bomber’s brother gets 55 years for Manchester concert attack*, *Associated Press*, Aug. 20, 2020 (22 dead).

³²⁷ Jason Van Rassel, *Police officer’s son charged in city’s worst mass murder*, *CALGARY [Alberta] HERALD*, Apr. 17, 2014 (5 dead); Jonathan Pearlman, *Eight Children Murdered In Mass Stabbing In Australia*, [U.K.] *TELEGRAPH*, Dec. 19, 2014 (8 dead); Robert Foyle Hunwick, *Why Does China Have So Many School Stabbings?*, *New Republic*, Nov. 2, 2018 (summarizing 14 knife mass murders in two incidents); David Mercer, *Canada mass stabbing: Trudeau urges public to ‘be careful’ over two men suspected of killing 10 people*, *SKY NEWS*, Sep. 5, 2022 (10 dead).

³²⁸ Jamelle Wells, *Robert Xie Trial: Lin Family ‘Murdered With Hammer Bought From \$2 Shop*, *ABC [Australia]*, May 12, 2014 (5 dead).


³²⁹ *Japan marks 25 years since deadly Aum sarin attack on Tokyo subway*, *Japan Times*, Mar. 20, 2020 (14 dead).

³³⁰ *Gunman’s Rampage in France Leaves 14 Dead*, *Los Angeles Times*, Jul. 13, 1989; *Teen-Age Gunman Kills Himself and 12 Others in France*, *New York Times*, Sep. 25, 1995; Nick Caistor, *Profile of a Teenage Killer*, *BBC News*, Apr. 28, 2002; *18 Dead in German School Shooting*, *BBC News*, Apr. 26, 2002; *Brazil School Shooting: Twelfth Child Dies*, *SkyNews*, Apr. 8, 2011; James Graff, *Politics Under the Gun*, *Time*, Mar. 31, 2002 (8 dead; 18 wounded in France); *Safety Council To Investigate Gun Laws*, *DutchNews.nl*, Apr. 12, 2011, http://www.dutchnews.nl/news/archives/2011/04/safety_council_to_investigate.php, last accessed May 21, 2011; *Schutter was al eerder suïcidaal*, *NOS Nieuws*, Apr. 10, 2011, <http://nos.nl/artikel/232127-schutter-was-al-eerder-suïcidaal.html>, last accessed May 21, 2011.

As long as we as a society focus on *methods* rather than *causes*, we are engaged in unneeded polarization while still not solving the problem.

Clayton E. Cramer

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Clayton E. Cramer

EXHIBIT A

Clayton E. Cramer

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EDUCATION:

	Sonoma State University, Rohnert Park, California
June, 1998	M.A. in History <i>Master's Thesis:</i> "Concealed Weapon Laws of the Early Republic"
June, 1994	B.A. in History <i>Honors: cum laude</i> and With Distinction

AWARDS:

1993	Association for Education in Journalism and Mass Communication Ethics Prize First Place, Undergraduate Division
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TEACHING EXPERIENCE:

Fall, 2020 - present	Adjunct Faculty: College of Western Idaho, Nampa, teaching Western Civilization I, U.S. History I.
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Western Idaho, Nampa, teaching **Western Civilization I, U.S.
History I.**

ical Institute, Boise, teaching **State and Local Government** and
Introduction to Computers.

University, teaching **U.S. Constitutional History** and at George
Fox University (Boise Center), teaching **America and the
World.**

l Professor Peter Mellini in his course "Twentieth Century World."
I graded quizzes, exams, and answered weekly written questions
from students. I also prepared and lectured about the rise of
totalitarianism in the period between the world wars.

BOOKS:

Social Conservatism in An Age of Revolution: Legislating Christian Morality in Revolutionary America
CreateSpace, 2016

Historical Evidence Concerning Climate Change: Archaeological and Historical Evidence That Man Is Not the Cause
CreateSpace, 2016

My Brother Ron: A Personal and Social History of the Deinstitutionalization of the Mentally Ill
CreateSpace, 2012

Armed America: The Remarkable Story of How and Why Guns Became as American as Apple Pie
Nelson Current, 2006

Concealed Weapon Laws of the Early Republic: Dueling, Southern Violence, and Moral Reform
Praeger Press, 1999

Black Demographic Data, 1790-1860: A Sourcebook
Greenwood Press, 1997

Firing Back: Defending Your Right to Keep and Bear Arms
Krause Publishing, 1995

For The Defense of Themselves and the State: The Original Intent and Judicial Interpretation of the Right to Keep and Bear Arms
Praeger Press, 1994

By The Dim and Flaring Lamps: The Civil War Diary of Samuel McIlvaine, editor
Library Research Associates, Inc., 1990

SELECTED PUBLICATIONS:

“Assaulty Weapon Bans: Can They Survive Rational Basis Scrutiny?” *University of Akron ConLawNow* 8:issue 1, article 1.

Co-authored with David B. Kopel and Joseph Olson, "Knives and the Second Amendment," *University of Michigan Journal of Legal Reform*, 47:1 167-215 (2013).

“Mental Illness and the Second Amendment,” 46 *Conn. Law Review* 4:1301 (2014).

Co-authored with David B. Kopel, “State Court Standards of Review for the Right to Keep and Bear Arms,” 50 *Santa Clara Law Review* 101-208 (2010).

Co-authored with David B. Kopel, "The Keystone of the Second Amendment: Quakers, the Pennsylvania Constitution, and the Questionable Scholarship of Nathan Kozuskanich," 19 *Widener Law Journal* 277-320 (2010).

Co-authored with Nicholas J. Johnson and George A. Mocsary, “‘This Right is Not Allowed by Governments that are Afraid of the People’: The Public Meaning of the Second Amendment When the Fourteenth Amendment was Ratified,” 17 *George Mason Law Review* 3:823-862 (2010).

Co-authored with Don B. Kates, “Second Amendment Limitations and Criminological Considerations,” 61 *Hastings Law Journal* 1339-1370 (2009).

Co-authored with Joseph Edward Olson, “Gun Control: Political Fears Trump Crime Control,” *Maine Law Review*, 61:1 [2009] 57-81

Co-authored with Joseph Edward Olson, "What Did "Bear Arms" Mean in the Second Amendment?" *Georgetown Journal of Law & Public Policy*, 6:2 [2008]

Co-authored with Joseph Edward Olson, "Pistols, Crime, and Public Safety in Early America." *Willamette Law Review*, 44, [2008]

“Why Footnotes Matter: Checking *Arming America's* Claims.” *Plagiary* 2006 1 (11): 1-31 [29 September 2006]

“Michael Bellesiles and Guns in the Early Republic.” *Ideas on Liberty* 52:9 [September, 2002] 17-22.

“The Peaceable Kingdom?” *Books & Culture: A Christian Review*, July/August 2002, 29.

“Confiscating Guns From America’s Past.” *Ideas on Liberty* 51:1 [January, 2001] 23-27.

“Disarming Errors.” *National Review*, October 9, 2000, 54-55.

“An American Coup d'Etat?” *History Today* [November, 1995].

“A Tale of Three Cities: The Right to Bear Arms in State Supreme Courts.” *Temple Law Review* 68:3 [Fall, 1995] 1178-1241. Co-authored with David Kopel and Scott Hatstrup.

“‘Shall Issue’: The New Wave of Concealed Handgun Permit Laws.” *Tennessee Law Review* 62:3 [Spring, 1995] 679-757.

“The Racist Roots of Gun Control.” *Kansas Journal of Law & Public Policy* 4:2 [Winter, 1995] 17-25.

“Ethical Problems of Mass Murder Coverage in the Mass Media.” *Journal of Mass Media Ethics* 9:1 [Winter, 1993-94] 26-42.

A comprehensive list of popular magazine articles would run to many pages; for a complete list see <http://www.claytoncramer.com/popular/popularmagazines.htm> .

CONFERENCES & EXPERT TESTIMONY:

Ohio State Senate Judiciary Committee, March 22, 1995.

Michigan House of Representatives Judiciary Committee, December 5, 1995

American Society of Criminology, San Diego, Cal., November, 1997. “Fear And Loathing In Whitehall: Bolshevism And The Firearms Act Of 1920.”

American Society of Criminology, Chicago, Ill., November, 2002. “The Duty to be Armed in Colonial America.”

Assisted in research and writing of Respondent’s Brief and Academics for the Second Amendment and Claremont Institute amicus briefs for *D.C. v. Heller* (2008).

Panelist on “Up in Arms: The Second Amendment in the Modern Republic” University of Connecticut School of Law, November 15, 2013.

WORKS CITED IN COURT DECISIONS:

“‘Shall Issue’: The New Wave of Concealed Handgun Permit Laws,” cited in *Pagel v. Franscell*, 57 P.3d 1226, 1234 (Wyo. 2002); *Moody v. ARC of Howard County, Inc.*, Civil No. JKB-09-3228 (D.Md. 2011).

“‘This Right is Not Allowed by Governments that are Afraid of the People’,” cited in *McDonald v. Chicago* (2010); *Ezell v. City of Chicago* (7th Cir. 2011).

“Second Amendment Limitations and Criminological Considerations” cited in *U.S. v. Yancey*, 09-1138 (7th Cir. 2010); *U.S. v. Chester*, 628 F.3d 673 (4th Cir. 2010); *U.S. v. Skoien*, 587 F.3d 803 (7th Cir. 2009).

“What Did ‘Bear Arms’ Mean in the Second Amendment?”, cited in *D.C. v. Heller* (2008). In addition, significant parts of Justice Scalia’s opinion are derived from amicus briefs that I helped to research and write.

For the Defense of Themselves and the State, cited in *Mosby v. Devine*, 851 A.2d 1031, 1052 (RI 2004) (Flanders, J., dissenting); *U.S. v. Emerson*, 46 F.Supp.2d 598 (N.D.Texas 1999); *State v. Sieyes* 225 P. 3d 995 (Wash. 2010).

“A Tale of Three Cities,” cited in *State v. Mendoza*, 920 P.2d 357, 360 n. 4 (Hawaii 1996).

Concealed Weapon Laws of the Early Republic, cited in *Senna v. Florimont*, 958 A.2d 427, 433 (N.J. 2008).

“Mental Illness and the Second Amendment,” cited in *In Rec EC* (N.J.App. 2015).

A comprehensive and up to date list can be found at <http://claytoncramer.com/scholarly/journals.htm#citations>.

LANGUAGES:

Very basic reading competence in German.

OTHER SKILLS:

I have 35 years of experience as a computer software engineer, including embedded telecommunications equipment development, web page creation and maintenance. I also have an unusually

detailed knowledge of the physical sciences (for an historian), a deep interest in the history of science and technology, and how both influence society.